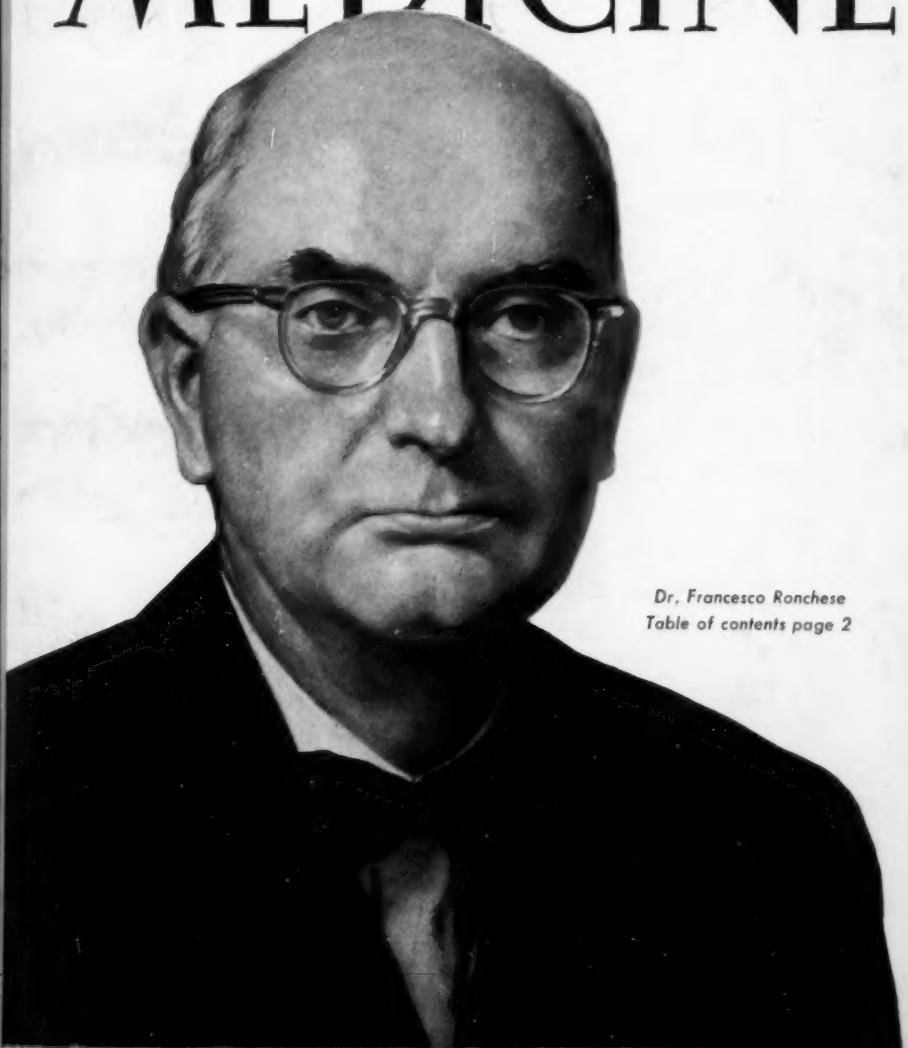
AUGUST 1, 1954

MODERN MEDICINE

The Journal of Diagnosis and Treatment



Dr. Francesco Ronchese

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Nitranitol for prompt relief of distressing symptoms... slower acting Rauwolfia for prolonged hypotensive and quieting action--no lag in symptom relief. The combination means normal life sooner for your essential hypertensives... no jolting of the vasomotor reflexes... side effects are uncommon.

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2. Am. Heart J 18:425, 1939.

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Walter C. Alvarez
Editor-in-Chief

●

THE MAN ON THE COVER is Dr. Francesco Ronchese, Assistant Professor of Dermatology at Boston University. He is Chief of the Department of Dermatology at Rhode Island Hospital, Providence, and consultant in dermatology at the State Hospital for Mental Diseases and the State Infirmary, Howard, R. I. Dr. Ronchese is a member of many medical societies, including the Association of Military Surgeons of the United States and the Italian Society of Dermatologists and Syphilologists. His article, "Cancer Fluorescence under the Wood Light," appears on page 80.

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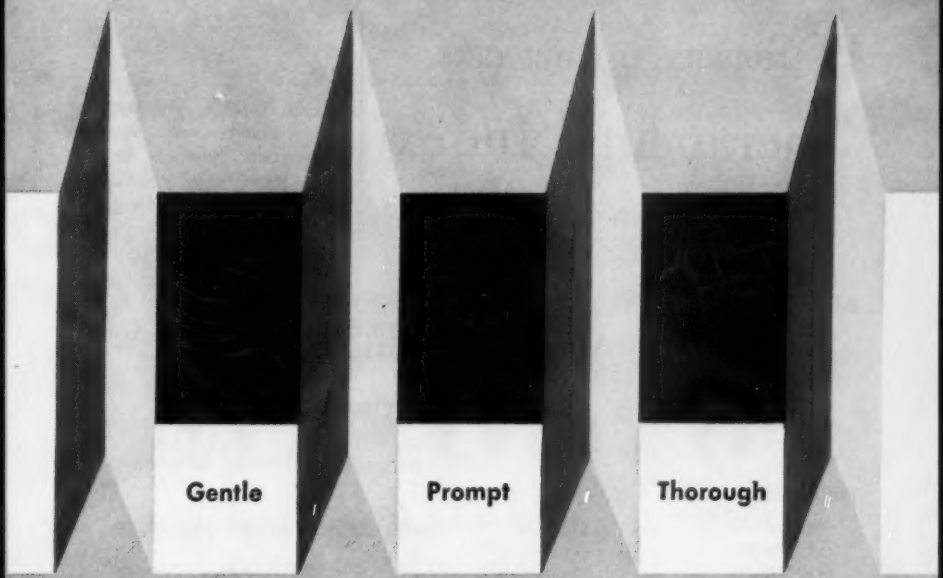

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for August 1, 1954

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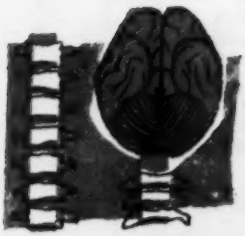

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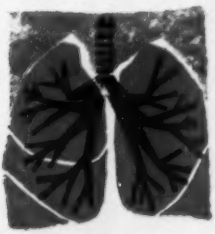

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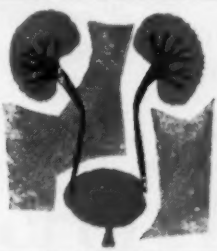

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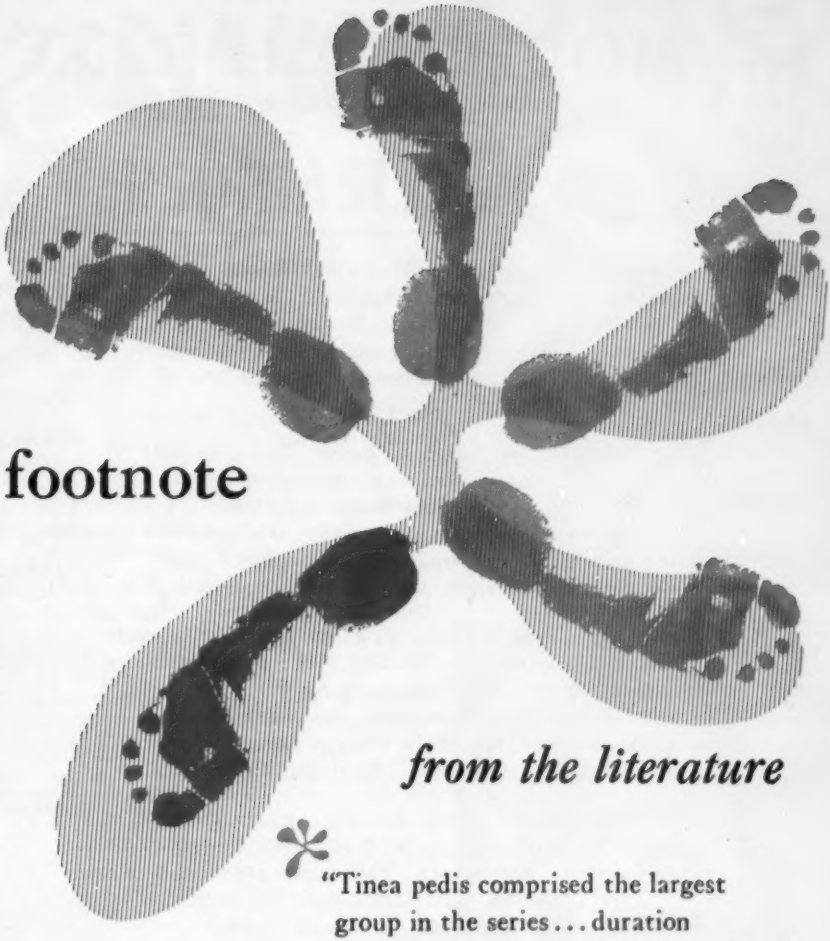

footnote

from the literature

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H. G. Ravits, *J. A. M. A.*, *148*:1005, 1952.

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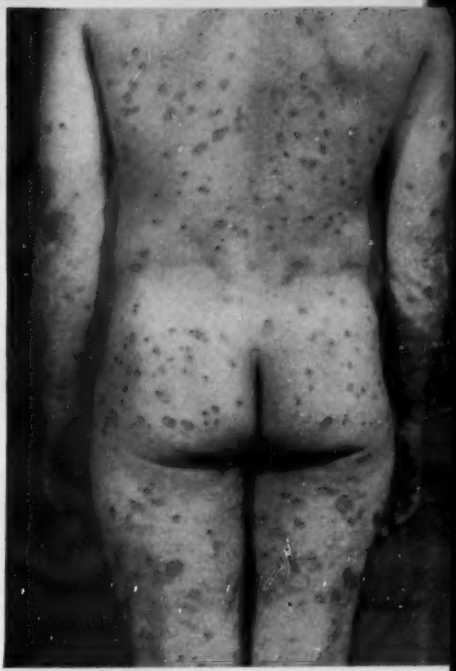
Apply daily after a mild soap bath and thorough drying. A thin invisible, economical film suffices. No bandages required. After one week, adjust to patient's progress.

RIASOL is supplied in 4 and 8 fld. oz. bottles at pharmacies or direct.

*A statistical study of 231 cases of psoriasis reported by Lane and Crawford in the **Archives of Dermatology and Syphilology** 35:1051, 1937.



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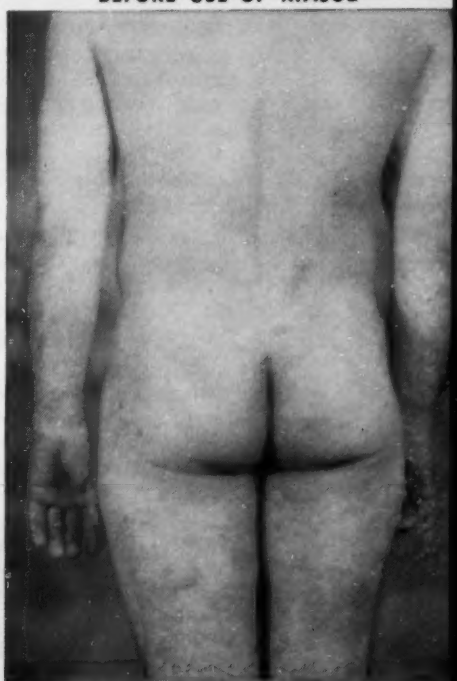

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RIASOL FOR PSORIASIS

MODERN MEDICINE

THE JOURNAL OF DIAGNOSIS AND TREATMENT

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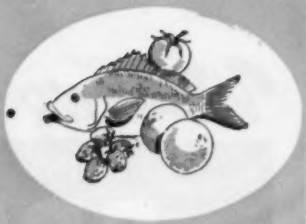
...in food allergies...



...contact dermatitis

drug allergies...

...allergic coughs

insect bites...

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...and for those allergies which do not respond to other antihistaminics, switch to **CLISTIN®** MALEATE

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Correspondence

Communications from the readers of MODERN MEDICINE *are always welcome. Address communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Pregnancy in the Menopause

TO THE EDITORS: In reply to your request *(Modern Medicine,* May 15, 1954, p. 82) for instances of pregnancy after the menopause, there is a very brief but excellent paper on the subject of pregnancy late in life by Newell and Rock, *(Am. J. Obst. & Gynec.* 63:875-876, 1952).

I personally delivered 1 of the 2 women who had their babies at 52 years of age. I mention this in the 10th edition of the Greenhill-DeLee Book, page 94.

J. P. GREENHILL, M.D.
Chicago

► TO THE EDITORS: In the spring of 1907, I delivered a 53-year-old Swiss housewife of her tenth baby. Her last menstrual period occurred at the age of 48.

GEORGE R. GOERING, M.D.
Flint, Mich.

► TO THE EDITORS: The patient was 50 years old. Her last menstrual period had occurred nine months before I saw her and, on examination, she was found to be six months' pregnant. I subsequently delivered her, one year after her last period, without any difficulty. She had had a child nineteen years before I saw her and that had been her only pregnancy.

It seems to me that women are tending to have the menopause much later than twenty or thirty years ago. I have had a number who are menstruating even though they are in their 50's. This is probably due to improvements in living conditions and nutrition.

FRANK SPIELMAN, M.D.
New York City

► TO THE EDITORS: During the first years of my practice, a woman, age 52, came to me saying that she had a tumor. Examination revealed a seven months' pregnancy. She said, "Why, that cannot be. I have not menstruated for twelve years, not since my last baby was born." She delivered the child uneventfully on the Fourth of July.

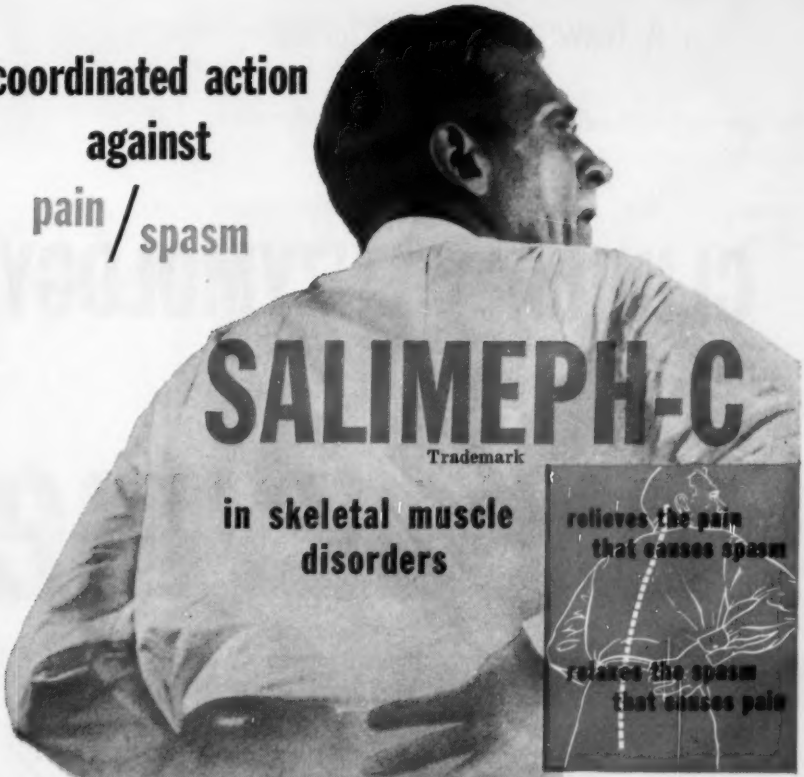
A. F. SMITH, M.D.
Manning, Ia.

► TO THE EDITORS: A 48-year-old spinster married a widower of 70 years. She had not menstruated for two years.

About four months after marriage she had a swelling in her abdomen. The surgeon, assisted by

(Continued on page 20)

coordinated action against pain / spasm



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REFERENCES: 1. Natenshon, A. L., Wisconsin M. J., in press. 2. Seeberg, V. P., et al.: J. Pharmacol. & Exper. Therap. 101:275, 1951. 3. Brodie, D. C., and Szekely, I. J.: J. Am. Pharm. A., Scient. Ed. 40:414, 1951. 4. Wegmann, T.: Schweiz. med. Wchnschr. 80:62, 1950.

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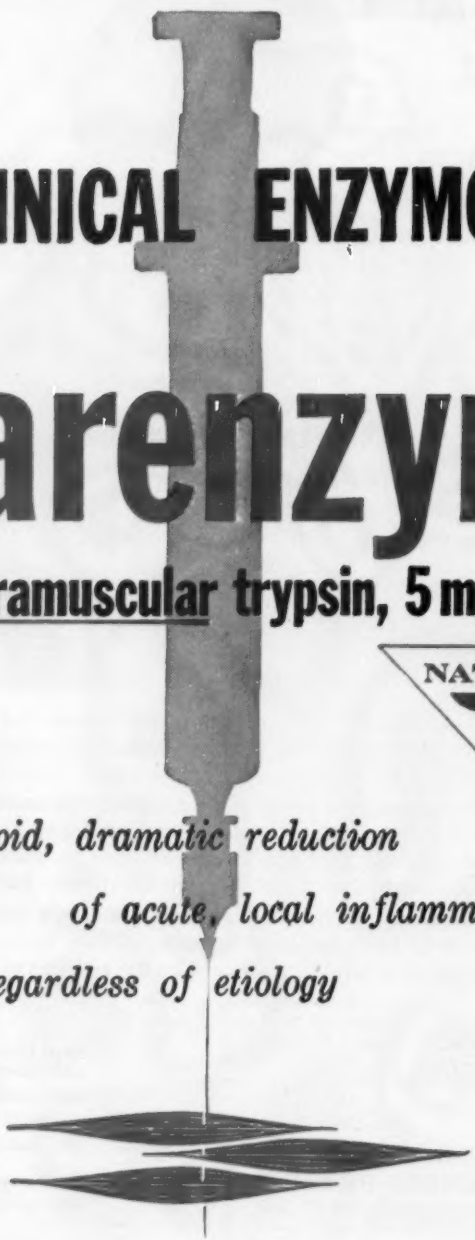

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in *phlebitis, thrombophlebitis, phlebothrombosis*
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PARENZYME has also proved effective in management of varicose and diabetic leg ulcers.

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his son, opened the abdomen. The son said, "Dad, your tumor is a baby." The wound was closed and in due time a baby girl was delivered. This occurred in 1913.

The woman was a patient of mine the last twenty-four years of her life and the "tumor" has been a patient of mine since 1925.

PERRIN T. WILSON, M.D.
Cambridge, Mass.

► TO THE EDITORS: Your *Modern Medicine* editorial requested reports on pregnancies after the menopause.

In twenty-one years of private practice in Kansas I have not seen one such case of pregnancy. My pregnancy cases average over 100 a year.

J. ALLEN HOWELL, M.D.
Wellington, Kan.

► TO THE EDITORS: A woman aged 46 who had been amenorrheic for over twenty-two months conceived and was delivered of a normal female infant; one year later she was delivered of another normal female baby. I am waiting presently to see if she will have any more pregnancies while in this prolonged amenorrheic state.

JOHN S. GIARDINA, M.D.
Newark, N. J.

► TO THE EDITORS: From my practice I cull the following:

• Eighteen years ago I delivered a woman past 51. Gestation and postpartum periods were uneventful. The mother menstruated sporadically for another two years. The baby now is a husky 18-year-old farmer.

• One of my patients began menstruating at the age of 10 and was regular, except for one full-term normal pregnancy, until the age of 60.

• A 45-year-old woman was delivered of a girl, who is in excellent health today at the age of 16. The mother never conceived before and has never menstruated since.

JOSEPH BACKLAR, M.D.
St. Louis

Troublesome Psoriasis

TO THE EDITORS: Dr. William H. Goeckerman's Special Article on treatment of psoriasis in the May 1, 1954 issue of *Modern Medicine* (p. 79) was excellent. The first paragraph, however, contains one word, "incurable," that I feel would better be omitted in discussions of psoriasis.

To the lay person, "incurable" has terrible connotations. Every once in a while I have had to deal with patients who had been told by their physicians that their skin disease was incurable. Some of them had become quite despondent.

Everyone will agree with Dr. Goeckerman that psoriasis has a strong tendency to recur and that there is a systemic background which probably accounts for this tendency. However, the same can be said about the common cold. For the layman, psoriasis is an eruption of red scaly patches on the skin. If these are made to disappear by any of numerous methods of treatment, including those outlined by Dr. Goeckerman, then the patient has a right to consider him-

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self cured, just as he is cured of a cold when the nose stops running, even though he may have another cold the following week and may have an underlying "incurable" predisposition.

HERMANN PINKUS, M.D.
Monroe, Mich.

► TO THE EDITORS: The following case of a 24-year-old male may help the doctor in deciding whether psoriasis is more of a metabolic than a dermatologic problem. Patients with this condition are more sensitive than the average individual to fats of both vegetable and animal origin and the higher concentrated or readily soluble carbohydrate foods.

To aid elimination from the skin, sweats were given three times weekly for the first month, twice weekly the second month, and once weekly the following month, and the patient was advised to expose the skin, but not excessively, to sun and air at a resort. For folliculitis, one of the coal tar preparations was employed for about two weeks.

Aside from sweating, treatment was solely dietary, consisting of high animal protein and very few fats, greases, or oils. A thin spread of butter on bread or in scrambling of eggs was permitted; a teaspoonful of sour cream with lemon or grapefruit juice or a pinch of salt was used as dressing on salads; only a little top milk was permitted in coffee or tea. Small quantities of cheese products were allowed.

The amount of starches and other concentrated or soluble carbohydrates such as fruits, sweets, and sugars was

kept low. Juices, milk, and beer were omitted except for the small amounts of citrus juice used for marinating meat or as a dressing for vegetables. No cooked or canned fruits were taken. A small quantity of fresh fruit such as a small orange or the equivalent in other fruit was allowed once daily. Unlimited amounts of 5% carbohydrate vegetables, less of 10%, and small quantities of the high carbohydrate vegetables were permitted. Cereals were eliminated. Gradual increase of the amounts of bread and other carbohydrate foods in the first year were always kept within the tolerance of the patient. Small amounts of fruits or equivalent sweets of various types were substituted for the bread or other starches from time to time, but within the tolerance of the patient. The total carbohydrate intake was equally spread over the three meals as closely as practical. Deficits of carbohydrate at one meal were not made up at the other meals. Loss of weight was prevented by increasing the quantities of animal proteins and, within the patient's tolerance, carbohydrates and fats.

No psoriasis has been evident in this patient since May 1947.

M. B. LEVIN, M.D.

Baltimore

Altered Meaning

TO THE EDITORS: The alterations made in the first paragraph of my discussion of stellate ganglion block (*Modern Medicine*, May 1, 1954, p. 146) changed the meaning. The paragraph, as I originally wrote it, read:

There is little hesitancy in recommending sympathectomy, either chemical or surgical, in the treatment of vasospastic or vascular occlusive lesions of the extremities in an effort to salvage the part. Yet there is considerable reluctance to the application of the same principle in a similar vascular situation encountered in the brain, where the salvaging of even a

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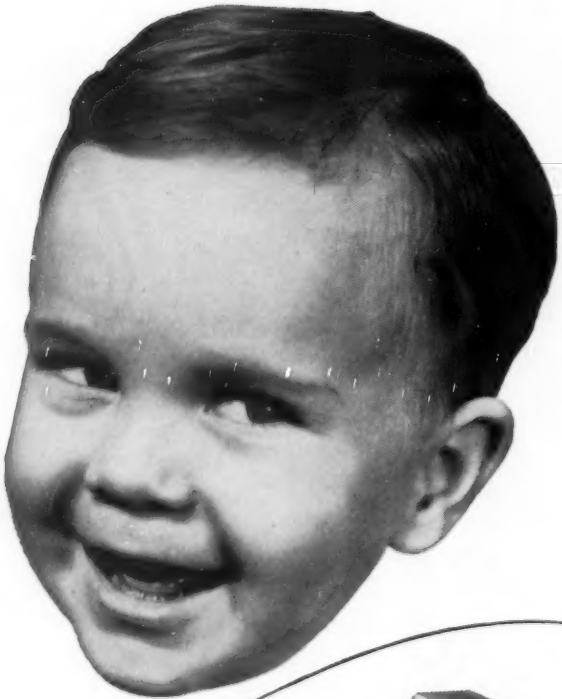
*T.M. Reg. U.S. Pat. Off.
†present in gastric substance



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small area pays a relatively high clinical dividend.

This accurately expresses my viewpoint.

I enjoy the Medical Forum, as well as other features in *Modern Medicine*, tremendously. Please continue the good work.

WILLIAM A. NOSIK, M.D.
Cleveland

Incorrect Interpretation

TO THE EDITORS: The review of my article on revascularization of the myocardium *(Modern Medicine*, June 1, 1954, p. 78) does not give the correct interpretation of the original article in the following sentence: "Of a group of 18 patients with advanced rheumatic heart disease with congestive failure, 4 died at operation." The phrase "4 died at operation" should be "the immediate operative mortality was 4 patients."

AARON N. GORELIK, M.D.
Bronx, N. Y.

Tall Tapers

TO THE EDITORS: An advertisement on page 207 of the May 1, 1954 issue of *Modern Medicine* advocates "450 foot candles for illuminating deepest body cavities."

Is the human stature increasing to *this* extent?

R. D. FROST, M.D.
Bishop, Calif.

Phenomena with Hemiplegia

TO THE EDITORS: I should like to call the attention of your readers to a phenomenon which is important in the management of hemiplegia. It is probably not generally known that patients with hemiplegia and aphasia have recurrent episodes of head noises, hypersensitivity to sound, and pain in the paralyzed side which may have fairly definite patterns.

These episodes may result in irritability, bizarre actions, and, sometimes, rage. The cause of these actions might be misinterpreted by persons tending the patient unless the occurrence is understood.

The episodes may occur every few days or every day for several days. They become less frequent as recovery progresses. The most common symptom is a heightened sensitivity to sounds and head noises, sometimes associated with the rhythm of the pulse. Another common symptom is pain in the paralyzed side with twitching of the muscles. Many other symptoms, such as sense of vibration, irregular swings of sensations of heat and cold, anomalous taste sensations, visual aberrations, choking sensations, or fear, are likely to occur. The episodes build up to a considerable intensity and then subside rapidly, often leaving the patient exhausted.

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New York City

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Pentobarbital	20 mg.
Ascorbic Acid	100 mg.
Thiamine HCl	0.5 mg.
Riboflavin	1 mg.
Niacin	5 mg.

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What evidence is available that habitual application of cephalic warm and cold showers started early in life will help maintain proper cortical and subcortical vascular elasticity, thus diminishing or even preventing cerebral apoplexy from arteriosclerosis?

M.D., New York

ANSWER: *By Consultant in Neurology.* We are not aware of any clinical or experimental evidence to show that this procedure has an effect upon vascular elasticity or vascular structure at any time in life.

QUESTION: A 25-year-old man is nervous and has a rapid pulse and hypertension. No definite increase in size of the thyroid gland has been noted. Protein-bound iodine is 5.7 μg. per 100 cc. of serum. Is this test sufficient to rule out hyperthyroidism? What treatment should be given to decrease the blood pressure and pulse rate?

M.D., Arizona

ANSWER: *By Consultant in Internal Medicine.* Hyperthyroidism is militated against by a protein-bound iodine value of 5 μg. On the other hand, this individual could have both hypertensive and hyperactive thyroid disease. If the basal metabolic rate is normal, the entire problem is probably one of essential hypertension in a young adult. However, basophilic adenoma of the pituitary, unilateral or bilateral pyelonephritis, unilateral or bilateral polycystic kidneys, chronic glomerulonephritis from preexisting infection, and coarctation of the aorta should be eliminated.

An exhaustive study of the personality would be of some value, especially an evaluation of job performance. This does not necessitate psychotherapy or care by a psychiatrist. For general practice, psychotherapy is simply a careful inquiry into the emotional problems of the patient. Often, cooperative individuals who are able to adjust to their environment do well.

Until some specific medication for hypertension is found, our approach naturally must be of a general nature. Use of sedatives is standard. Despite the normal iodine content of the serum, the use of Lugol's solution and rest to effect a lessened heart rate may be of some value. Sympathectomy has been done for selected patients, and Smithwick has presented some excellent evidence of its value. However, essential hypertension remains a medical disease and must be evaluated most carefully before surgical intervention.

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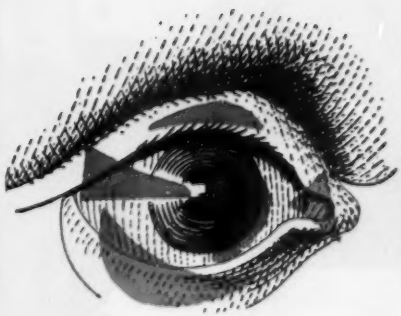

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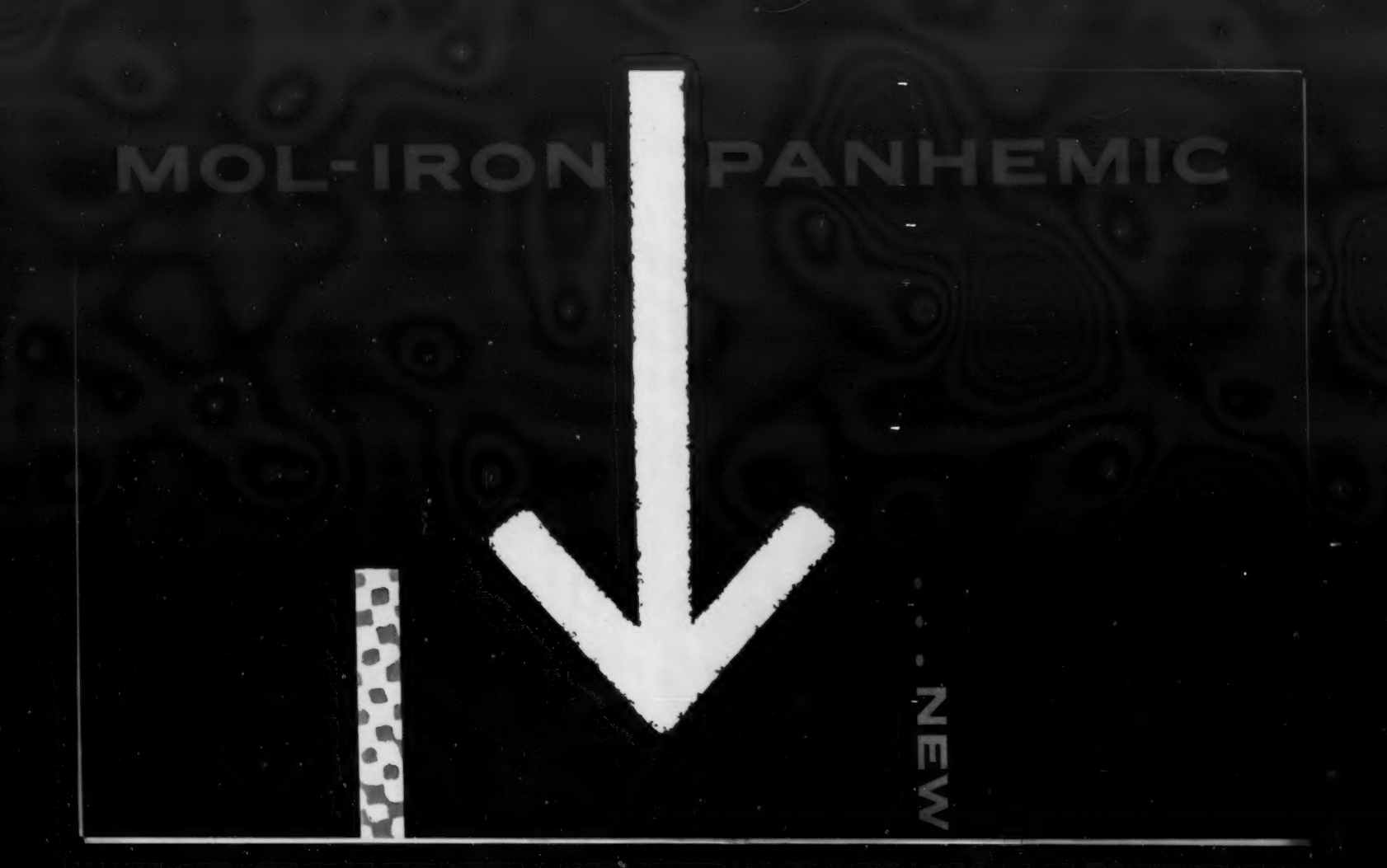
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and its anti-anemia potency is expressed

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only 2 capsules provide

1 U.S.P. Oral Unit* of anti-anemia activity

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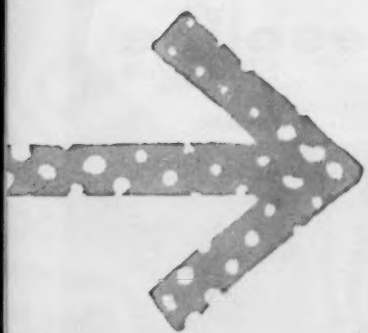
The usual daily dose of only *2 Mol-Iron Panhemic* capsules (1 b.i.d.) contains therapeutic quantities of all clinically essential hemopoietic factors and is effective for all anemias amenable to oral therapy.



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QUESTIONS: How soon after an acute gallbladder attack should roentgenograms be made? Will function be more likely to show at three weeks than at one week after an acute attack? How reliable is a diagnosis of a nonfunctioning gallbladder made within two weeks of an acute attack?

M.D., North Carolina

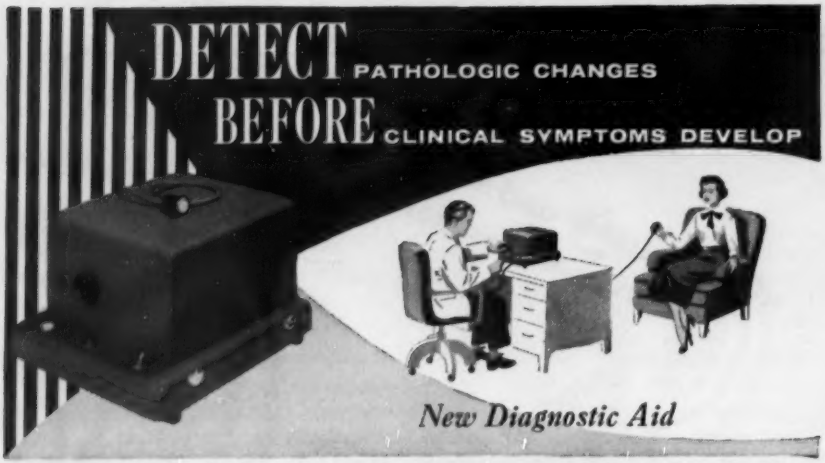
ANSWER: *By Consultant in Radiology.* Some kinds of contrast media should not be given immediately after an acute gallbladder attack because retention in the liver might be deleterious. Roentgenograms obtained three weeks after the acute attack certainly would be more likely to show function than films made after one week.

The diagnosis of a nonfunctioning gallbladder would be quite reliable two weeks after an acute attack if residual jaundice or any other evidence of hepatic insufficiency was found.

QUESTION: A 59-year-old woman, who is healthy except for arthritis, has chronically infected tonsils. Is operation justified?

M.D., New York

ANSWER: *By Consultant in Orthopedics.* The tonsils should be removed. Although the relationship between arthritis and tonsils has never been definitely established, elimination of a source of infection is an approved health measure. The age of this patient should not prevent surgery.



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*Flicker Fusion Threshold—frequency with which successive flashes of light appear to the eye as apparently solid light.

1. Brill, Harold, M., et al: Am. J. Obst. & Gynec. *64*:6, 1201-1210, Dec., '52.

2. Marty, J. P., and Hardy, J. A.: Am. J. Obst. & Gynec. *64*:5, 1149-1153, Nov. '52.

3. Krasno, L. R., and Ivy, A. C.: Circulation *16*, 1267-1276, June, '50.

4. Landis, Carney: The Scientific Monthly *73*:5, Nov., '51.

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CONTROL—156 Patients
The Course of the Disease
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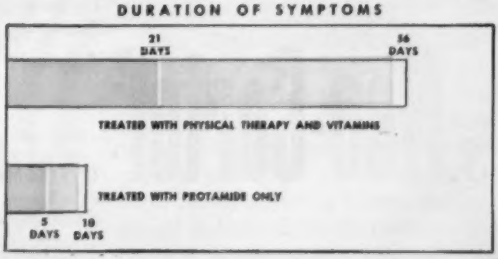

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THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: For several years, two doctors attended each other when either was ill. No agreement as to charges was made, and there was no proof of a custom among doctors in the community. Could one doctor compel the other to pay a balance due for treatment after crediting the latter for his services?

COURT'S ANSWER: Yes.

The Supreme Court of Georgia noted that a generally recognized local custom may govern a contract which is silent on an important point. But the court said that proof of a courtesy that is not always observed did not establish a governing custom (66 Ga. 49).

PROBLEM: In a suit involving personal injury to a 5-year-old boy, was a physician, who was consulted by the mother by telephone, improperly permitted to testify to the boy's subjective symptoms when the testimony was based upon what the mother said?

COURT'S ANSWER: Yes.

So decided the Illinois Appellate Court, First District (118 N.E. 2d 60).

PROBLEM: In a personal injury case, could an appellate court consider statements quoted by appellant's lawyer from medical books that were at variance with the testimony of a medical expert?

COURT'S ANSWER: No.

The Missouri Supreme Court reasoned: The statements did not establish verity. The jury, not the courts, should have determined to what extent, if at all, such statements discredited the doctor's opinions (266 S.W. 2d 680).

PROBLEM: A doctor, called to testify in a personal injury suit as an expert concerning plaintiff's injuries, did not examine plaintiff until a year after the accident and did not treat him, acting only in an advisory capacity. Was the doctor qualified to testify on the basis of the case history as related by plaintiff?

COURT'S ANSWER: No.

So decided the U. S. Circuit Court of Appeals of the Sixth Circuit (127 Fed. 2d 606).

The decision is similar to many that have been rendered. But courts generally declare that if the doctor treated the plaintiff, he may testify to an opinion based upon what the patient told him. As noted by the New Jersey Supreme Court, the patient's statements to the doctor concerning his condition are more dependable when made in an effort to aid the doctor in effecting a cure than when they are made to influence his testimony in court (29 Atl. 2d 876).

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Also *Donnatal Plus*—same formula, plus essential B vitamins, in tablets and elixir.

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Antacid	Dihydroxy aluminum aminoacetate (7½ gr.)	0.5 Gm.	
Antispasmodic-sedative	Hyoscyamine sulfate	0.1037 mg.	. . . to reduce intestinal hypermotility
	Atropine sulfate	0.0194 mg.	
	Hyoscine hydrobromide	0.0065 mg.	
	Phenobarbital (¼ gr.)	16.2 mg.	

PROBLEM: A suit on a personal injury claim was compromised for $20,000. In the settlement negotiations, the parties considered that the physician who attended plaintiff had submitted a bill for $1,645. Plaintiff collected the $20,000 but refused to pay the medical bill, claiming that it was excessive. Was the doctor entitled to compel the plaintiff to pay $1,645 on a theory that plaintiff received that sum for the benefit of the doctor?

COURT'S ANSWER: No.

The Municipal Court of Appeals for the District of Columbia decided that the doctor was not a direct beneficiary of the compromise since no part of the settlement was designated as belonging to him. The doctor had to establish the reasonable value of his services in trial court on a rehearing of the case (98 Atl. 2d 22).

The decision seems to have been influenced by conclusions reached by the South Carolina Supreme Court in a similar case. W had won a personal injury judgment for $1,750 against T, and T brought a suit for permission to pay $894.15 of the amount to W's doctor.

Apparently, W could not be relied upon to pay the doctor, and suit was brought by T in an effort to help the doctor collect his fee. However, the South Carolina Court could find no legal warrant for imposing a lien against the fund in favor of the doctor (153 S.C. 146, 150 S.E. 655, 66 A.L.R. 703).

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Vitamin A	5000 units
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Thiamine	1 mg.
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Vitamins A, D and C for drop dosage

Each 0.6 cc. supplies:

Vitamin A	5000 units
Vitamin D	1000 units
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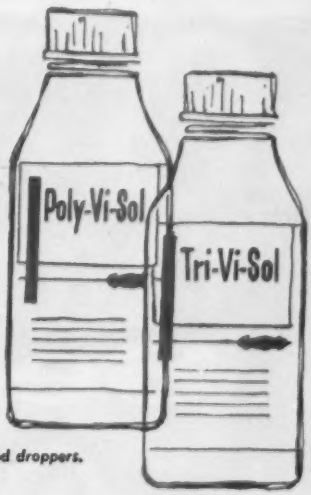

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"unusually good results"[1]

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2. Rottino, A.: Journal Lancet *71*:237, 1951.
3. Pelner, L., and Waldman, S.: New York State J. Med. *52*:1774 (July 15) 1952.

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Washington LETTER

Secretary Hobby Criticized by House Committee

WHEN Truman-appointed Oscar Ewing was administrator of the Federal Security Administration, it was the usual thing for the House Appropriations Committee to cuff him around a bit while approving money for his use. His successor, Secretary Oveta Culp Hobby, is now receiving the same treatment. In approving funds for her Department of Health, Education, and Welfare, the committee has accused her of everything but armed robbery. She was charged with trying to spend too much on some programs, and trying to get by with too little on others. Mrs. Hobby has also been accused of ignoring the expressed intent of the committee, a cardinal sin.

The committee's report was not an objective critique of her administration. It was an attack that at times was personal. The first draft was reported to carry words somewhat like the following: "The Secretary is just as bad as Oscar Ewing, only more aggressive." However, more moderate elements on the committee had the phrase stricken before the report was printed.

"Paging Dr. Chamberlain! Paging Dr. . . ."

Criticisms of the secretary were scattered all through the 26-page report. Here is a sampling, enough to show what the committee thinks of the only woman member of the Eisenhower cabinet.

On Howard University, Negro institution maintained by Congress, and for which the Secretary did not recommend repairs:

> The chairman of the subcommittee made a personal inspection. His report fully confirmed the claim that rather extensive repairs are badly needed.

On Public Health Service grants to states:

> The committee looks with strong disfavor on lumping of these grants [as proposed by the secretary]. If a disease for which special grants have been provided is on the decline, those grants should be reduced or eliminated, rather than transferred to a general fund. . . . There was some reticence on the part of Public Health Service and departmental witnesses to discuss candidly the method used in arriving at the estimates for this appropriation.

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the formula of 'Neuro Phosphates' plus Vitamin B_1

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On a U. S. research clinic in Cincinnati:

It is hoped that more faith can be put in the testimony presented this year regarding the consolidation of personnel and activities in the research center building than could be put in it on the basis of the testimony of a year ago.

On Alaskan health costs:

The committee is far from convinced there is a pressing need for some of the research, such as that on hibernating animals, that has recently been carried on with these funds.

On Hill-Burton hospital construction funds, a $25 million increase at issue:

The only reason that the department was able to give . . . was that Congress was so slow in acting on a proposal for new legislation. To the committee this sounded more like an excuse than a reason. . . . Congress seldom acts hurriedly. . . . The committee does not believe that those at the head of the department are so naïve as to think otherwise.

On research, where Mrs. Hobby generally had recommended reduced appropriations:

The committee would be the first to recommend reductions . . . if it were shown that we can now prevent or cure these diseases, or that the incidence of these diseases is substantially declining. In all the voluminous testimony received by the committee, there was no indication that any of these things has happened. . . . To start cutting back, right at the time when the prospect for really great discoveries is the brightest, seems very shortsighted. . . . The committee was very surprised to learn that the Clinical Center program for blindness is,

to quote the director, "a sort of standby program." This problem is certainly important enough to warrant much more than a standby program.

On research fellowships, where there has been a decline:

The committee is quite disturbed about this precipitous decline in so vital a program and desires that the Institutes use funds provided in the bill to reinstate the program next year on a scale that will make up the loss that has occurred.

On transfer of funds:

The committee is again denying the requested authority [to transfer funds] and emphatically reasserts the thoughts expressed last year. The committee is sorry to state, however, that last year's language was not entirely effective. To cite one instance, even in the face of the above language, the Secretary used other language to assess the various appropriations made to other parts of the Department to finance the establishment and maintenance of a "chart room" in her office, at a cost of over $100,000.

On centralization:

The committee is concerned . . . by the fact that there seems to be a growing tendency to centralize more and more of the department's administrative operations. . . . It found that the administrative expenses estimated for 1954 are actually higher than for 1953. . . . [In the future] the secretary's office will be financed entirely by appropriations made directly to that office through the usual budgetary process.

It is interesting to note that of the 30 Republicans and 20 Democrats on the Appropriations Committee, not one was sympathetic enough with the secretary, or interested enough in the situation, to protest her rough treatment. Nor was any word said in her favor during House debate on the bill.

Before passing the bill, the House made substantial increases eve

(Continued on page 54)

from early pregnancy through lactation

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Thiamine HCl (B_1)	2 mg.
Riboflavin (B_2)	2 mg.
Niacinamide	7 mg.
Vitamin B_{12}	1 microgram as present in concentrated extractives from streptomyces fermentation
Vitamin K (Menadione)	0.5 mg.
Ascorbic Acid (C)	35 mg.
Folic Acid	1 mg.
Calcium (in $CaHPO_4$)	250 mg.
Phosphorus (in $CaHPO_4$)	190 mg.
Dicalcium Phosphate Anhydrous ($CaHPO_4$)	869 mg.
Iron (in $FeSO_4$)	6 mg.
Ferrous Sulfate Exsiccated	20 mg.
Manganese (in $MnSO_4$)	0.12 mg.

(The need for manganese in human nutrition has not been established.)

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over the committee's higher figures for research, but the committee's recommendation for reducing Hill-Burton funds was not accepted. The figure was brought back $10 million to the $75 million proposed by the administration.

Hill-Burton legislation seems to carry a special charm on Capitol Hill. The program itself, enacted in 1947, is the only important medical legislation passed since the war. It was renewed with no difficulty.

This year, legislation was introduced to expand the program by authorizing additional funds for chronic disease hospitals, nursing homes, rehabilitation centers, and diagnostic and treatment clinics. It has been moving smoothly and uninterruptedly through Congress. A few modifications have been made, most important a Senate committee amendment to bar centers that would be used for treatment alone, but there has been no effort to knock out the bill. The new grants would amount to $60 million per year.

At the same time, the regular Hill-Burton appropriation was moving ahead, despite efforts of the House Appropriations Committee to reduce its size. Originally the Budget Bureau, representing the President, said $50 million would be enough. But, before close of the House hearings, the President sent up word that $75 million would be needed.

On the House floor, the Hill-Burton item took up more time than any other part of the department's appropriation. Members all but stood in line for a chance to support a motion to raise the $65

(Continued on page 58)

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million committee figure to $75 million. Only three members spoke against the increase.

The technical possibility still remained that the Senate would cut back the total again, but this was not in the least probable. In the past it has been the Senate that has increased Hill-Burton funds after reduction in the House.

Washington Notes

¶ Although the administration put on heavy pressure for enactment of its health reinsurance plan late in the session, it was touch and go whether enough time was left to get it passed. Two precious months elapsed from the close of Senate and House hearings until the administration really started moving. ¶ Although the Commission on Intergovernmental Relations has experienced a bumbling start, due mostly to the controversy over its first chairman, Clarence Manion, the Hoover Commission is moving steadily ahead in its massive job of studying the entire federal government structure. It is devoting considerable attention to federal medical programs. The first Hoover Commission proposed a joint hospital administration, but Congress repeatedly has turned down the idea.

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CALPURATE is recommended by outstanding clinicians [1] [2] [3] as safe prophylaxis in the management of angina pectoris.

The anginal syndrome of STRESS in the hypertensive...

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CALPURATE tablets of 500 mg. (7½ gr.)

1. Hejmancik, W., Current Therapy, p. 121, 1953. Edited by H. F. Conn, M.D.
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- anemia in chronic infection
- anemia in pregnancy
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"We agree with Waltner (1930) and Virdis (1952) that iron should be given together with cobalt to obtain the most satisfactory results."[1]

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"The babies were closely observed daily for ill effects of the medication while at the premature unit and when they returned for check-ups. None of them showed harmful effects despite the large doses."[3]

***Bibliography of 192 references available on request.**

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3. Quilligan, J. J., Jr.: Effect of a Cobalt-Iron Mixture on the Anemia of Prematurity, Texas St. J. Med. *50*:294 (May) 1954.

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Cobalt chloride..... 15 mg.
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Ferrous sulfate..... 75 mg.

DOSAGE

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prolonged relief...
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1. Silbert, N.E.: Ann. Allergy *10*:328 (May-June) 1952
2. Peshkin, M.M., and others: Ann. Allergy *9*:727 (Nov.-Dec.) 1951

SUPPLIED: Tablets—12.5 mg. per tablet; bottles of 100
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MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

THE EDITOR'S PAGE

by WALTER C. ALVAREZ, *Editor-in-Chief*

Equivalents of Chronic Disease

One of the greatest needs in medicine today is further study of equivalents of several chronic diseases. For instance, a woman of 35 came into the office with tingling, numbness, and a feeling of weakness in her legs. Physicians had thought of primary anemia but had dismissed this idea when the patient's blood was found to be normal.

Suggestive of primary anemia were the facts that the woman had become gray by the time she was 22 and that her mother had had primary anemia. It is true that the patient's blood seemed normal, but she had no hydrochloric acid in her stomach. She had only a few signs indicative of cord changes but, after a few injections of liver extract, the distress in her legs cleared up and she felt wonderfully well. An examination of several of her relatives showed that two had achlorhydria and one had some macrocytosis.

Recently, Dr. Armand Quick has called attention to the fact that some of the relatives of bleeders, even women, carry a slight latent tendency to the disease. It appears now that if two carriers marry, one or more of the boys who may be born to the couple may bleed badly.

The physician who examines the relatives of a person suffering from gout may find some with an unusually high blood uric acid. Some relatives of diabetic persons come in with curious sugar tolerance curves, early coronary disease, and perhaps great nervousness, which Dr. Kallmann thinks may perhaps, in the future, be identified as related to diabetes.

From much experience, I strongly suspect that some of the

relatives of women who once had thyrotoxicosis have nervous and pelvic troubles and difficulties with menstruation that are part of their inheritance.

Persons related to patients with severe migraine may have abdominal "storms" which appear to be equivalents of migraine. Many relatives of the psychotic, the alcoholic, or the epileptic person have queer nervous syndromes that are almost certainly equivalents. If one studies three or four generations of the relatives of a person with, let us say, epilepsy, one is likely to find a few who are insane, alcoholic, feeble minded, criminal, stutterers, or enuretic.

Serge Androp once wrote a book about a group of subnormal families in his small town. In one of these families, the brother of an epileptic had married an apparently normal woman. In the next three generations there were 5 epileptics, 9 feeble-minded persons, 1 congenitally deaf person, 4 criminals, 2 insane persons, and 1 suicide. There doubtless were other individuals in this family who suffered from chronic nervousness and ill health.

In 1906, Woods remarked that the Spanish Queen, Joanna the Mad, had among her relatives such persons as Luis the Weak, Luis the Foolish, Maria the Licentious, Philip the Imbecile, Maria Luisa the Stupid, Francis the Bigoted, Carlotta the Violent, Ferdinand the Brutal, Balthazar the Degenerate, and Philip the Lazy.

Every old general practitioner knows dozens of families of this type. What is unfortunate is that we physicians received absolutely no training at college in what some day may be one of the most important branches of medicine—the study of genetics and the equivalents of disease.

But, some may ask, what use can we make of such knowledge? One use may be to avoid what happened to a friend of mine, a handsome well-adjusted college graduate and successful businessman who married a charming woman, also well adjusted and normal. Their two parents were normal and their four grandparents were normal, but their first child was an epileptic imbecile. Why did this disaster come to them? My friend has an uncle who is an epileptic and his wife has an insane aunt. I fear that my friends are carriers of two nervous defects. These defects were inherited by the child and served to reinforce one another.

Lone Auricular Fibrillation

WILLIAM EVANS, M.D., AND PETER SWAN
London Hospital

*Atrial fibrillation is occasionally observed in a man who has no other indications of organic cardiac lesion or of diseases affecting the heart.**

THE heart is not under duress with lone auricular fibrillation, a term proposed for the occurrence of auricular fibrillation with no associated heart disease or thyroid toxemia. The condition is not rare in men, but probably never appears in women. The etiology is unknown.

A relatively slow heart rate, rarely more rapid than 90 and sometimes less than 60 beats per minute, is typical of lone auricular fibrillation. Palpitation is not common but may appear if patients do periodic heavy work that induces tachycardia. Otherwise the arrhythmia is usually asymptomatic and is often first noticed during a physical examination made for some other reason. Among 20 cases, the ages were from 38 to 72 years, with a mean of 56 years.

The arrhythmia that occurs with paroxysmal auricular fibrilation apparently arises from a different mechanism and should not be considered in the same category as auricular fibrillation.

The diagnosis of lone auricular fibrillation is established by exclusion. The patient does not have heart failure, significant murmurs, or added sounds. Usual causes of fibrillation, such as mitral stenosis, cardiac infarction, constrictive pericarditis, and hypertension, must be excluded by physical, cardiographic, and cardioscopic examinations. A phonocardiogram should be made to detect the auscultatory signs of mitral valve disease.

Cardioscopic study, including a barium swallow with inspection of the left auricle in the oblique position, is necessary to eliminate the possibility of cardiomegaly. A chest roentgenogram will determine the absence of pulmonary congestion.

The electrocardiogram will demonstrate the auricular fibrillation. No frank inversion of the T waves or right or left ventricular preponderance is found. The only cardiac manifestation is the fibrillation.

The patient's general health and longevity are not affected by lone auricular fibrillation. Intracardiac thrombosis apparently does not occur nor has embolism been noted.

Treatment consists mainly of reassurance. No attempt should be made to reinstate sinus rhythm, since the heart is under no strain; quinidine should not be used.

If palpitation arises during heavy exertion, a daily dose of 1 gr. of the leaf of digitalis is used.

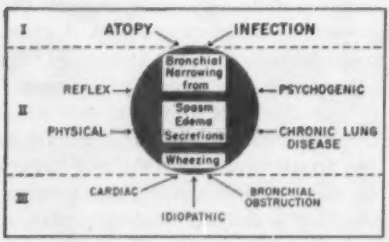
*Lone auricular fibrillation. Brit. Heart J. 16:189-194, 1954.

Causes of Asthma

OSCAR SWINEFORD, JR., M.D.
University of Virginia, Charlottesville

*The mechanism producing asthma can usually be recognized through application of relatively simple criteria.**

WHEEZING, the diagnostic sign of asthma, results from narrowing of the airways, which may be caused by several mechanisms. Determination of the responsible agency may be simplified by the classification given in the accompanying diagram.



The causes of wheezing can be divided into 3 groups:

1] *Atopy or infection*

Most asthma results from atopy or infection or a combination of the two factors. When atopy and infection are controlled, the secondary causes of wheezing listed in Group 2 usually become unimportant.

The outstanding features of atopic and infectious asthma are contrasted in the table.

2] *Reflex causes, physical allergy, chronic lung disease, or psychogenic influences*

• Nasal polyps, the most important of the *reflex* causes of asthma, probably narrow the bronchi through the nasal-pulmonary reflex. Thyroid nodules will occasionally produce reflex asthma. Sometimes finger pressure on the nodule will start an attack. Other examples of reflex asthma are the contralateral wheezing commonly seen with carcinoma of the lung and after aspiration of foreign bodies.

• When a patient attributes asthmatic symptoms to exposures to heat or cold, temperature changes, drafts, wet feet, exercise in cold or hot air, hot or cold baths, or abnormal humidity, *physical allergy* should be considered. The suspicion is confirmed if wheezing can be produced in a symptom-free period by exposure to the suspected physical factor. The hands may be put in hot and cold water and the chest and face exposed to infrared heat and a tray of ice cubes.

Wheezing is frequent with a *chronic lung disease*, such as emphysema, fibrosis, or lung cyst. Dyspnea, cough, and sputum are as typical of these conditions as of asthma. When wheezing occurs, the physician must determine whether the patient has chronic lung disease

*Asthma: classification of causes. J. Allergy 25:151-167, 1954.

and, if so, how much of the morbidity results from asthma and how much from the lung disease.

The following strongly suggest chronic lung disease:

Dyspnea without wheezing
Dyspnea only on exertion
Long period of cough or exposure to pulmonary irritants
Prompt relief of dyspnea by rest, particularly by lying down—differentiates cardiac and asthmatic from pulmonary dyspnea
Poor respiratory motions of the chest
Use of accessory muscles of respiration without wheezing
Increased anteroposterior diameter of the chest with emphysema
Low diaphragm with only limited motion
Decreased area of cardiac dullness
Faint heart sounds
Faint breath sounds with prolongation of expiration
Prominent systolic thrust in the epigastrium
Venules along the diaphragm attachment

COMPARISON OF ATOPIC AND INFECTIOUS ASTHMA

DIFFERENTIAL POINT	ATOPY	INFECTION
History		
Family history	Usually positive	Positive or negative
Season	Predictable	Cold and changeable
Cough	Late	Prominent, early
Cough	No residual	Residual
Sputum	Mucoid, early or late	Purulent, late
Nasal discharge	Mucoid, early or late	Purulent, late
Onset of attacks	Abrupt	Gradual
Precipitating factors	Foods and inhalants	Respiratory infection
Other allergy	Frequent	Infrequent
Sneezing	Frequent	Infrequent
Itching eyes	Frequent	Infrequent
Lacrimation	Frequent	Infrequent
Fever	Absent	Common
Chemotherapy	No effect	Shortens or aborts
Response to adrenalin and aminophylline	Good	Fair or poor
Physical Examination		
Nasal mucosa	Pale translucent swelling	Red, opaque, swollen
Nasal secretions	Mucoid	Purulent
Uvula	Pale translucent	Red, wrinkled
Tonsils	Pale	Red
Lateral pharynx	Pale	Red streaks
Chest	Asthma	Asthma
Sinuses	Transilluminated	Often opaque
Laboratory Data		
Sinus x-rays	Clear or thick mucous membrane symmetric	Opaque—hazy, often unilateral
Leukocytes	Normal	Elevated or normal
Eosinophilia	Infrequent	Common
Weltmann reaction	Shift to right or normal	Shift to left
Skin tests	Foods and inhalants prominent	Foods and inhalants not prominent

The diagnosis of chronic pulmonary disease can be confirmed by roentgenograms and by pulmonary function studies such as vital capacity. The total vital capacity may not be significantly lowered at first, but the ability to blow out a significant portion of the total vital capacity at the first expiratory puff is reduced. These procedures must be performed when the patient is not wheezing even during forced expiration.

Control of infection, bronchospasm, and edema of the bronchi and avoidance of inhaled irritants often alleviate the lung condition. Improvement frequently occurs if the patient stops smoking.

The following should make the physician suspect *psychogenic influence* as the cause of wheezing:

Irrelevant verbosity
Failure to give direct replies to direct questions
Different replies to the same questions repeated at intervals
Apparent satisfaction if previous treatment fails
Sighing respiration or air hunger between attacks
Disclosure of an unresolved life situation
Attitudes of depression, involution, anxiety
Unconvincing food, inhalant, physical, and infection association
Psychosomatic syndromes
Dyspnea out of proportion to auscultatory signs of asthma
Unnecessary physical exertion when breathing
Rapid respiration
Panicky behavior
Chain-smoking of the nebulizer
Sighing respiration
Clammy hands
Wide pupils between attacks
Display by parents of overprotection or rejection
Relief from placebos
Poor relief of relatively slight attacks from adrenalin, ephedrine, and aminophylline
Pronounced relief from sedation with or without atropine

3] *Heart disease, bronchial obstruction, or idiopathic source*

Any *heart disease* which leads to acute left ventricular failure may precipitate true cardiac asthma.

The following are diagnostic criteria:

Known heart disease with a left ventricular load
Proper age for coronary insufficiency
Extreme sense of suffocation or fear of death during an attack
Frothy or pink sputum
Air hunger sufficient to cause patient to go to window or outdoors during an attack
Asthma which is slight for years then becomes more severe at night, with little or no change in daytime attacks
Appreciable tachycardia before medication
Greater elevation of blood pressure during than between attacks
Rapid development of cyanosis
Drenching sweats during attacks
Accentuation of the pulmonic second sound
Prompt relief by oxygen, particularly by positive pressure
Relief from tourniquets or venesection
Fetal or gallop cardiac rhythm
Circulation time prolonged during an attack, but normal between attacks
Roentgen evidence of hilar pulmonary congestion during attacks, but not between attacks

When a number of these criteria point to cardiac asthma, digitalis, salt restriction, diuretics, sleeping in the upright position, and restriction of activities may be tried. If the attacks do not stop within two or three days, the patient probably does not have cardiac asthma.

Bronchial obstruction may be produced by means other than spasm, edema, and increased secretion. For example, bronchi may be narrowed by foreign bodies, polyps, adenomas or cancer, by kinks from a contracting scar or an expanding cyst, or by external pressure from mediastinal or peribronchial masses.

Obstruction should be suspected when wheezing occurs with a history of foreign body aspiration, hemoptysis, unilateral pain in the chest, rapid debility, subjective unilateral air hunger or wheezing, exhausting cough, pulmonary tuberculosis, or other chronic lung infections. Physical signs are localized inspiratory stridor, particularly if found by several examinations, unequal ventilation of the 2 lungs or of corresponding lobes, visible venous collaterals, orthopnea or cyanosis between attacks of wheezing, and enlargement of the peripheral glands or spleen.

Wheezing with bronchial obstruction is usually incidental. Attention should be centered on the obstruction, not on the asthma.

Hydralazine for Hypertensive Disease

ROBERT D. TAYLOR, M.D., A. C. CORCORAN, M.D., HARRIET P. DUSTAN, M.D., AND IRVINE H. PAGE, M.D., CLEVELAND CLINIC, CLEVELAND, observe that hydralazine is an effective antipressor drug for 50% of patients with elevated blood pressures. Relief may be maintained as long as thirty months.

Diastolic pressure may be reduced to less than 110 mm. of mercury, with improvement in renal, cerebrovascular, and cardiac states. The mortality rate among patients controlled by the drug is one-fifth that of unresponsive hypertensive patients.

The schedule of treatment is 25 mg. of hydralazine four times daily, increased slowly to 800 mg. daily, or until results are observed at lower levels. Dosage is then gradually diminished to the least amount needed to maintain greatest therapeutic effect, usually about 50 mg. four times daily. Transitory side effects of the drug, such as flush, headache, edema, tachycardia, palpitation, increased cardiac output, and renal vasodilation, can be controlled with antipyretics.

Because the drug may take effect slowly, trial should last at least eight weeks. Blood pressure determinations made at home are more reliable than those made in the office, as the minor stress of the visit may precipitate a temporary elevation.

The drug is most effective for hypertension of psychogenic or neurogenic origin and least effective when the high pressure is due to renal disease. Hypertension with nephrosclerosis may be lowered by hydralazine therapy.

Further evaluation of hydralazine in treatment of hypertensive disease. Arch. Int. Med. 93:705-712, 1954.

¶ DIAGNOSIS OF HYPERPARATHYROIDISM is suggested when percussion of the head elicits a booming, low-pitched note like the sound made by tapping on a watermelon. The sign was observed by Frederick A. Fender, M.D., of Stanford University, San Francisco, in 3 patients found to have tumors or hyperplasia of the parathyroid glands. However, the sound is not demonstrable in normal persons or those with Paget's disease.

J.A.M.A. 154:1085-1086, 1954.

¶ VASCULAR SPIDERS, especially when multiple, suggest the diagnosis of cirrhosis of the liver. But to Irving B. Brick, M.D., and Eddy D. Palmer, M.D., of Georgetown University and Walter Reed Hospital, Washington, D.C., spider nevi also indicate the probable coexistence of esophageal varices. The latter were found in 95 of 150 cirrhotic patients; spiders were observed in 62.1% of this group and in 29.1% of the 55 subjects without varices. Esophagoscopic examination is mandatory with this type of nevoid anomaly.

J.A.M.A. 155:8-10, 1954.

¶ DISSEMINATED SARCOIDOSIS rarely involves the gastrointestinal tract. Lesions and lymph nodes associated with chronic inflammatory processes in the intestine may develop histologically similar tubercles, but Stanley H. Lorber, M.D., Harry Shay, M.D., and Henry Woloshin, M.D., of Temple University, Philadelphia, observe that these nonspecific granulomatous reactions must be differentiated from the entity described by Boeck. No instance of intestinal or gastric involvement was found when barium meal and small bowel enema studies were made of 21 patients with sarcoidosis.

Gastroenterology 26:451-460, 1954.

¶ ACUTE ASTHMATIC ATTACKS and status asthmaticus are effectively treated with 100-mg. doses of Demerol. When the drug is given orally or parenterally at six- to eight-hour intervals, J. A. Herschfus, M.D., A. Salomon, M.D., and M. S. Segal, M.D., of Tufts College and the City Hospital, Boston, observe very good anticholinergic and fair antihistaminic activity although fastness to epinephrine or aminophylline may develop. Use for two to five days does not cause addiction. Diminution of hyperventilation and improvement of respiratory capacities were demonstrated in 11 subjects; severe respiratory depression did not occur. Demerol should not be given with barbiturates or high concentrations of oxygen in instances of chronic hypoxia secondary to emphysema.

Ann. Int. Med. 40:506-515, 1954.

Electrolytes and Heart Failure

WILLIAM B. SCHWARTZ, M.D., AND ARNOLD S. RELMAN, M.D.
Boston

*Disturbances in electrolyte and water metabolism during treatment for congestive heart failure may determine prognosis.**

DISORDERS of electrolyte metabolism sometimes occur spontaneously but more often result from mercurial therapy. Proper diagnosis and management is therefore necessary to ensure continued effectiveness of treatment.

Patients given mercurial diuretics usually lose chloride in excess of sodium. Excessive loss of chloride with either potassium or ammonium produces a *hypochloremic alkalosis* with a rise in the serum bicarbonate concentration and a reciprocal fall in chloride. Metabolic alkalosis is manifested by failure to react to mercurial diuretics. Even changes as small as 4 to 6 mEq. per liter may affect diuresis.

When an adequate amount of ammonium chloride cannot be given orally, intravenous administration as a 1% solution in a 5% glucose solution often restores effectiveness of mercury. The injection should not exceed 150 cc. per hour, because intravenous ammonium may cause convulsions, collapse, and death if the rate of infusion exceeds the rate of hepatic conversion to urea.

When patients do not tolerate oral ammonium chloride, a 10% dilution of hydrochloric acid may be substituted. About 20 cc. of the acid, diluted to a volume of 600 to 1,000 cc., may be taken daily. A glass drinking tube is used to protect the teeth.

Patients with normal serum electrolytes may still fail to react to mercurials. Ammonium chloride potentiates mercurial diuresis in such patients, probably on the basis of an increased serum chloride concentration. When patients with elevated serum chloride concentrations are not affected by mercurials, good diuresis may be obtained by the slow intravenous administration of 0.5 gm. of aminophylline sixty to ninety minutes after the intramuscular injection of the mercurial. The effect may result from an increased glomerular filtration rate.

Hyponatremia or the low-salt syndrome is caused by reduced serum concentration of sodium and chloride with hypotonicity of the body fluids. Except in uremia or diabetic acidosis, an estimate of sodium concentration may be made by adding 12 to the sum of the concentrations of chloride and bicarbonate in milliequivalents per liter.

Hyponatremia is frequently associated with slight acidosis, cir-

*Electrolyte disturbances in congestive heart failure. J.A.M.A. 154:1237-1241, 1954.

culatory insufficiency, and azotemia. Patients are often weak, drowsy, and anorexic; differentiation from severe chronic congestive failure may be difficult. Mercurial resistance often occurs. Although hyponatremia is usually attributed to salt depletion after a low-salt diet and repeated mercurials, the syndrome may appear spontaneously. Thus other factors, such as water retention, primary changes in intracellular osmolarity, and abnormal transfers of electrolytes between body fluid compartments, may be responsible.

Spontaneous hyponatremia carries a grave prognosis; infusion of hypertonic saline may yield little benefit despite return of electrolyte concentrations to usual levels.

Hyponatremia may be caused by overt salt depletion as a result of paracentesis or thoracentesis. The removal of fluid results in a loss of electrolytes about equal to the solutes contained in an equivalent amount of plasma. Improvement may be seen after infusion of hypertonic saline.

Slow infusion of 200 to 300 cc. of a 5% sodium chloride solution daily for two or three days is effective in most cases of true sodium depletion. Sodium bicarbonate or sodium lactate solutions may be used if acidosis is a complicating factor.

Patients with elevated plasma bicarbonate and lowered chloride concentrations may have either *metabolic alkalosis* or *respiratory acidosis*. Such concentrations in patients without significant pulmonary disease who have received mercurials are usually the result of metabolic alkalosis. Anoxemia and severe pulmonary disease, on the other hand, suggest respiratory acidosis. Diamox, a carbonic anhydrase inhibitor, may produce diuresis in congestive failure caused by cor pulmonale.

The possibility of *ammonium chloride poisoning* should be considered when stupor, hyperpnea, acidosis, and moderate azotemia appear in a patient with congestive heart failure. Withdrawal of the drug is sufficient for moderate acidosis, but for severe poisoning large amounts of intravenous isotonic sodium bicarbonate or lactate should be given.

Arrhythmias after rapid diuresis may be an expression of digitalis intoxication caused by *potassium depletion* rather than mobilization of edema. Potassium chloride should be given orally, or parenterally if necessary.

Hyperchloremic acidosis is commonly associated with the use of *cation exchange resins* since hydrogen or ammonium on the resin is exchanged for sodium. The condition presents a problem primarily in patients with poor renal function. Treatment consists of withdrawal of the resin and administration of alkali.

Depletion of potassium or calcium may occur during resin therapy, necessitating replacement of the appropriate electrolyte.

Acidosis after *carbonic anhydrase inhibitors* results from increased renal excretion of bicarbonate and is accompanied by diuresis of sodium, potassium, and water.

Relaxation for Natural Childbirth

EDMUND JACOBSON, M.D.
Jacobson Clinic, Chicago

*The simplest and most effective way to lessen fear and pain of labor is thorough training in muscular relaxation.**

PSYCHIATRIC suggestion and hypnoidal states should be avoided during pregnancy, and no attempts should be made to stimulate enthusiasm, cultivate faith, or teach a patient the mechanics of childbirth. Tension, worry, and discomfort during or before delivery will increase with mental or emotional activity.

The expectant patient should be instructed to contract muscles in various parts of the body, not to cause fatigue, but only to heighten awareness of specific tensions, which can be released more efficiently after localization.

Training is done first in the lying position. Later, the patient may assume delivery postures, with legs bent at the knee. She is taught to relax abdominal muscles extremely and to contract for expulsion while keeping most other muscles limp.

Instruction starts with large muscle groups, where sensations are most conspicuous. The beginner is asked to bend the left arm steadily for several minutes, observing tenseness in the biceps-brachial region. She is then shown how to let go quickly and also how to attain slow, thorough, and progressive relaxation.

The usual order is left biceps, triceps, hand extensors and flexors, then right arm, left foot, lower leg, and thigh muscles, followed by right leg, abdominal, spinal, respiratory, pectoral, and interscapular groups, shoulder elevators, and the muscles moving the head.

Forehead and other facial regions are included, especially muscles of vision and speech. Tensions are noted with actual and imagined activity, such as audible and silent counting to 10. Contraction is observed and released during chance disturbances.

As skill improves, slighter degrees of tension are noticed and eliminated, until muscles can be relaxed even under unfavorable conditions. When residual tension subsides, pain and mental activity, including emotion, also decrease, but the woman remains self-reliant, with no real evidence of trance.

Progress in relaxation can best be measured by electromyography, a more reliable indicator than subjective sensations. Minute contractions are recorded with an error of only 0.25 millionth of a volt.

If 4 pairs of fine wire electrodes are inserted simultaneously in a subject adequately trained for la-

*Relaxation methods in labor. Am. J. Obst. & Gynec. 67:1035-1048, 1954.

bor, for instance, to register tensions in the brow, jaw, biceps, and thigh, the pointers are at or near zero during most or all of the relaxation test.

Suggestive methods of training for labor are undesirable because [1] effects are not dependable, [2] symptoms may be concealed rather than dispelled, [3] analgesia is produced in only 10% of cases, and [4] suggestibility, neurotic tendencies, and reliance on other persons are frequently aggravated.

Hypnotic states tend to increase action potentials, and persons frequently hynotized cannot learn to relax well.

Uterotubal Insufflation

ALBERT SHARMAN, M.D., ROYAL SAMARITAN HOSPITAL FOR WOMEN, GLASGOW, from experience with over 4,000 insufflations, concludes that carbon dioxide should be unquestionably used for the procedure. Carbon dioxide has such a high rate of solubility in blood that production of an embolism is almost an impossibility. When air or oxygen is used, embolism is always a hazard. Moreover, air might introduce infectious material.

Great care should be taken before concluding that the fallopian tubes are not patent. Failure of gas to pass at a pressure of 200 mm. of mercury does not necessarily connote occlusion. Two or more tests, the second without use of anesthesia and with the pressure advanced to 250 mm., if necessary, are more likely to provide a reliable diagnosis.

If the tubes are still impermeable, the cervix should be dilated and an endometrial biopsy made. Insufflation is again performed, without anesthesia.

In all cases then diagnosed as nonpatent, a hysterosalpingogram should be made. Hysterosalpingographic examination is unlikely to correct the diagnosis but will provide a strong corroboration of nonpatency and ordinarily will help to demonstrate the site of the occlusion.

Insufflation offers therapeutic possibilities, many observers having recorded pregnancies shortly after the test. Perhaps the cause is [1] establishment of patency of the genital tract, [2] removal of a cervical mucous plug, [3] dilatation of the tubes, or [4] a possible psychic effect.

The kymograph is a valuable adjunct to insufflation apparatus and supplies a permanent record for future comparison. A kymogram distinguishes not only between patent and nonpatent tubes but also between tubes that are normally patent and those that are the site of spasm, stenosis, or peritubal adhesions.

Some lessons from 4,000 utero-tubal insufflations. Brit. M. J. 4856:239-242, 1954.

Abruptio Placentae

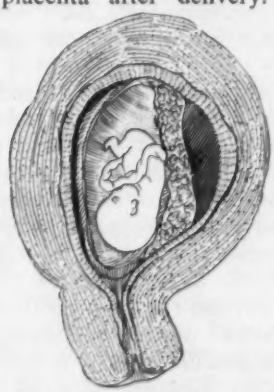
ERNEST W. PAGE, M.D., EARL B. KING, M.D., AND
JAMES A. MERRILL, M.D.
University of California, San Francisco

*Prompt delivery after premature separation of the placenta reduces serious maternal complications and lowers the incidence of maternal and fetal mortality.**

ALTHOUGH preeclampsia and essential hypertension may be predisposing factors, the etiology of abruptio placentae is not usually apparent. Pathologic findings in the mother with severe forms of the condition include fibrin embolism, ischemia and necrosis of the renal cortex, and fibrinolysis.

Severity of abruptio placentae may be graded into 4 groups on the basis of maternal symptoms:

Grade 0 is asymptomatic. Diagnosis is based upon examination of the placenta after delivery. No problem is posed by this group.



Grade 1 patients have external bleeding or slight uterine tetany. Placental separation before onset of labor occurs in about three-fourths of cases. However, patients in this group do not tend to progress to severer forms, and treatment should be conservative. Blood loss is replaced and labor is induced in pregnancies near term.

Grade 2 patients have uterine tetany and tenderness, external bleeding, and signs of fetal distress or death. The placenta separates before labor in three-fourths of cases. The severity of the disease may progress, hence treatment should be immediate. If fetal heart tones can be heard, cesarean section will give a higher fetal salvage rate than induction of labor and vaginal delivery.

Grade 3 is characterized by uterine tetany, fetal death, maternal shock, and, frequently, a blood coagulation defect. Almost every case occurs before onset of labor. Shock is treated by blood transfusions, and bleeding tendencies are controlled with fresh blood transfusions or infusions of fibrinogen. Prompt vaginal examination is made and chorionic membranes are ruptured, since increased intrauterine pressure predisposes to maternal

*Abruptio placentae. Obst. & Gynec. 3:385-392, 1954.

absorption of toxic tissue products of the placenta. Oxytocic drugs should not be given. Unless the cervix is more than one-half dilated and vaginal delivery can be expected within two to four hours, cesarean section should be done as soon as shock and coagulation defects are corrected. The maternal mortality rate in this grade is about 10%.

Of 225 patients with abruptio placentae, 146 were classed in grade 1, 50 in grade 2, and 29 in grade 3. The fetal mortality rate in the grade 1 cases was 30%. Vaginal delivery was performed in 139 cases. In the grade 2 group, 28 patients were delivered by the vaginal route with a fetal mortality rate of 79%, and 22 patients were delivered by cesarean section with a fetal mortality rate of 36%. In the grade 3 group, 17 patients were delivered by the vaginal route and 12 by cesarean section. The fetal mortality was 100%.

Some patients progressed from grade 2 to grade 3 severity under conservative therapy; 4 deaths occurred among patients in grades 2 and 3 for a combined maternal mortality rate of 14%. However, 3 of the 4 deaths might have been prevented if therapy to combat shock and hemorrhagic tendencies had begun immediately and the pregnancy had been terminated within four to six hours after onset of symptoms.

Effect of Travel on Pregnancy

JOSEPH A. GUILBEAU, JR., M.D., AND JACK L. TURNER, M.D., BASE HOSPITALS, MAXWELL AIR FORCE BASE, ALA., AND KEESLER AIR FORCE BASE, MISS., find that the incidence of complications during pregnancy is not increased by travel. Among 1,917 women who traveled 300 miles or more at one time while pregnant, the incidences of threatened abortions and of abortions were each under 5%, well below the generally accepted figure of 10% for spontaneous abortion.

Apparently neither length of journey nor mode of transportation affects the development of complications. However, patients should probably not be allowed to make long trips earlier than four to six weeks after all symptoms of a threatened abortion have ceased. Women who must travel should be advised on how to find physicians during the journey and should carry their prenatal records. Mild sedatives and Dramamine can be prescribed, especially for airplane flights.

Gravidas driving in cars should be advised to stop and rest if fatigued. The jerking and swaying motion of trains makes railroad travel just as tiring as that by airplane or automobile.

The effect of travel upon the interruption of pregnancy. Am. J. Obst. & Gynec. 66:1224-1230, 1953.

Postmenopausal Uterine Bleeding

JOHN I. BREWER, M.D., AND WILLIAM H. MILLER, M.D.
Northwestern University, Chicago

*In postmenopausal women, uterine bleeding is indicative of malignant disease until proved otherwise.**

RESUMPTION of uterine bleeding one or more years after the last menstruation implies that the uterus, or at least the cervix, exists and that the ovaries have ceased to function.

In a study of 211 patients with postmenopausal uterine bleeding, 27.5% had malignant disease and 34.1% had benign lesions. The cause of bleeding was undetermined in the remaining 38.4%. Endometrial adenocarcinoma and cervical carcinoma were the most frequent malignant lesions, and polyps, endometrial hyperplasia, and cervical ulcer were the most common benign lesions.

A single episode of spotting for two days occurring two to three months before the patient is examined may indicate cancer. Postmenopausal patients with cancer may have no bleeding for three to six months between episodes or after a single episode of uterine bleeding.

Quantity, duration, or character of the bleeding does not show accurately the extent of cancer or provide a means of distinguishing malignant from benign lesions. A complete study of the patient should be made, including physical examination and use of differential curettage and cervical biopsies. Follow-up examinations are important in these cases.

Curettage is considered adequate therapy in many instances. However, if bleeding continues or recurs, a second curettage should be done.

When feasible, definitive procedures such as hysterectomy or radiation are done at the time of curettage because the incidence of cancer is high in patients with postmenopausal bleeding and diagnostic procedures are subject to error. Frequently, coexisting lesions, such as vaginal relaxation, require surgical management and provide opportunity to include removal of the pelvic organs. In other instances, bleeding alone is an adequate indication for consummation of definitive measures.

Radiation therapy is usually reserved for malignant lesions. Vaginal hysterectomy is preferred for bleeding from nonmalignant causes. Tubes and ovaries should be removed; if this cannot be accomplished vaginally, either a combined vaginal and abdominal procedure should be performed or the abdominal approach should be employed initially.

*Postmenopausal uterine bleeding. Am. J. Obst. & Gynec. 67:988-1013, 1954.

Benign Tumors of the Large Intestine

W. W. GREEN, M.D.
Toledo, Ohio

*All neoplasms of the rectum and colon should be surgically removed, since many become malignant.**

MOST nonmalignant tumors of the large bowel originate from epithelium, although lesions of mesenchymal origin do occur. Sarcomatous degeneration is uncommon with the latter.

Adenomatous polyps occur most frequently in the lower sigmoid and rectum, usually well within reach of digital and sigmoidoscopic examination. The relationship between the benign and malignant tumors is close.

About half the polyps are unsuspected but are found during routine examinations. Others cause abdominal cramps or bloody mucus in the stool, although acute and profuse hemorrhage is not common. Repeated barium enemas may be necessary to demonstrate polyps of the upper colon.

The small, asymptomatic, sessile polyps within sigmoidoscopic range can be electrocoagulated or electrodesiccated if the operator is familiar with the current used. Bowel perforation can occur.

Some pedunculated polyps can be excised with a snare, with or without concomitant use of electric current. The entire mass can be extirpated for pathologic examination. Perforation is a possible complication. Periodic postoperative examinations should be made after any sigmoidoscopic removal.

Polyp excision through a colotomy is simple and safe and should be used when the tumor is too high or too large for the sigmoidoscope or when the surgeon is not proficient with the instrument. If a definite pedicle is found, without apparent malignant change, the base is ligated and the growth removed. When glands are noted or when the polyp is sessile, segmental bowel resection should be done.

Frozen sections are probably not reliable for establishing diagnosis.

Benign sessile papillary adenomas have a high malignant potential. A segmental colectomy is done for any above the rectum. Some rectal growths can be prolapsed through the anus and excised, others can be removed through posterior proctotomy. Large lesions may require proctosigmoidectomy.

Submucous lipomas may cause bleeding, intussusception, or intermittent partial obstruction, especially in the right colon and sigmoid. Pedunculated growths can be locally excised, but segmental resection is the usual treatment.

Symptoms of the infrequent large bowel *myoma* vary with the size

*The treatment of benign tumors of the colon and rectum. South. M. J. 47:365-371, 1954.

and location. Both myomas and *fibromas* should be excised. *Hemangiomas* and *lymphangiomas* are rare and require radical removal.

Benign *lymphomas* are usually asymptomatic rectal tumors. When the diagnosis is certain, the lesions can be electrocoagulated or electrodesiccated but otherwise should be excised.

The *lesions of familial multiple polyposis* readily become malignant, and total or subtotal colectomy must be done. Sigmoidoscopic examination frequently establishes the diagnosis.

Ultrasonic Visualization of Soft Tissues

DOUGLASS H. HOWRY, M.D., DOROTHY A. STOTT, M.D., AND W. RODERIC BLISS, VETERANS ADMINISTRATION HOSPITAL, DENVER, AND UNIVERSITY OF DENVER, have devised a pulse-echo somascope to produce ultrasound pictures of the internal structure of solid objects.

The somascope gives greater depth of tissue penetration and better picture detail than other ultrasound equipment used for diagnostic purposes because lower power, lower frequency sound beam, and focusing elements are used. The general method of visualization closely parallels the system of sonar navigation. Benign and malignant tumors in pathologic specimens, and nerves, vessels, tendons, and fascial planes in a living subject may be demonstrated.

A high-voltage, short, alternating current, produced by the pulse generator of the somascope, passes to an electrically contracting and expanding ultrasonic crystal to create a mechanical wave. Ultrasonic lenses confine the wave to a narrow beam. The sound beam travels through a tank of liquid until blocked by some discontinuity. A small echo progresses back to the crystal and is transferred into an amplified electrical signal, and a single spot appears on the cathode-ray tube of an oscilloscope. A line of spots representing reflecting surfaces is formed.

More pulses are generated and caused to travel in slightly different paths, each passing adjacent to the previous pulse. The thousands of sound pulses formed every second pass rapidly through a 2-dimensional plane and make a visually continuous image on the oscilloscope. The somagram shows the object in cross section.

In the laboratory, a kidney cyst and carcinoma of the breast have been successfully visualized. A diffuse, invasive scirrhous carcinoma of the breast not palpable in a fresh pathologic specimen was discernible on the somagram. The extremities only of living subjects have been examined.

The ultrasonic visualization of carcinoma of the breast and other soft-tissue structures. Cancer 7:354-358, 1954.

Cancer Fluorescence under the Wood Light

FRANCESCO RONCHESE, M.D.*
Providence

Prepared for Modern Medicine

ADVANCED epidermoid cancer not evident in the first biopsy may be detected by a Wood light. Under the beam, malignant tissue glows with the vivid reddish orange of live coals in the dark. In contrast, other ulcerated surfaces are uniformly deep violet to the eye, blue-black in photographs. The flaming color is not seen with early carcinoma but only in highly malignant, ulcerated, and necrotic tumor.

Inexpensive and suitable for office procedures, the lamp does not replace essential pathologic methods but shows where diagnostic samples can be obtained.

More than 50 cases were observed in five years. Red-orange radiance was often noted in squamous cell epithelioma or adenocarcinoma of the breast and once in facial fibrosarcoma.

The photographic technic is simple. An ordinary good camera is employed with Ektachrome cut films, 3 by 4 or 4 by 5 in., and a Wratten 2B filter. Focus is adjusted, and the room is darkened.

The operator holds the Wood lamp with one hand, directing the beam to the most fluorescent spots, while the other hand moves the shutter. A time exposure of from fifteen to thirty seconds is made; film is processed by the usual method.

The fiery glow spreads merely over the surface of cancer and is not seen on section.

Brilliance is temporarily reduced by roentgen therapy, but reappears a few days after end of therapy.

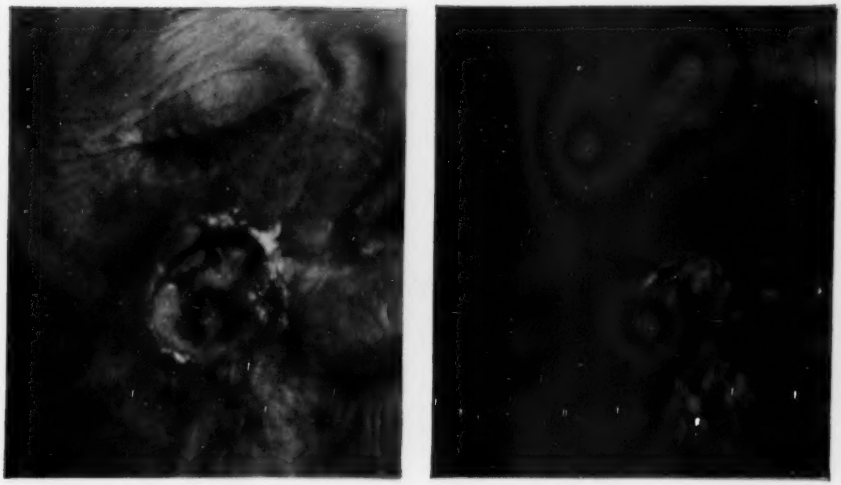
Cancer is readily distinguished from other lesions with the same outward appearance.

The typical red-orange hue must be kept in mind, however; cancer cannot be diagnosed every time a beam elicits red, as, for example, the rose red of a normal tongue or the pink of dental tartar.

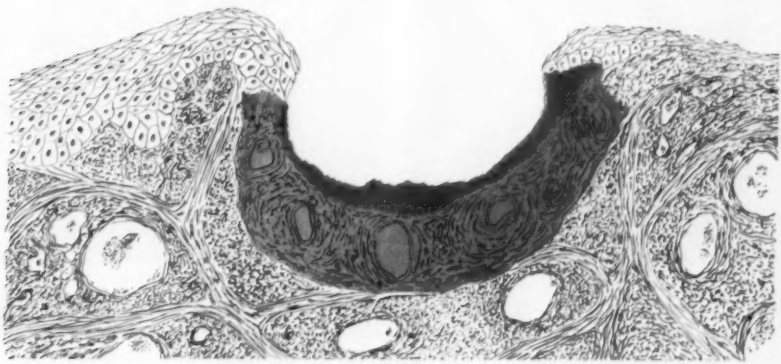
Dull-pink fluorescence or no reaction is a sign of benign tissue or low-grade squamous- or basal-cell carcinoma. Even in some extensive, apparently hopeless malignant growths, a dull-pink glow indicates that recovery is likely with proper treatment.

The flaming red-orange radiance always means a poor outcome, probably death in a few months.

*From the Department of Dermatology, Boston University School of Medicine, and the Rhode Island Hospital, Providence.

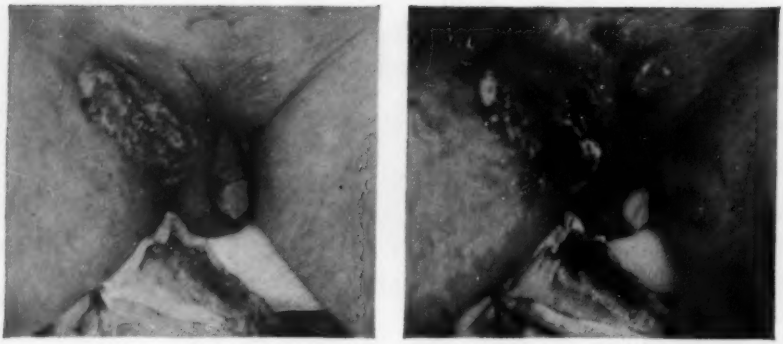


Fibrosarcoma developing on lupus vulgaris and roentgen dermatitis. Clinical appearance is poor. Notice that the color is dull pink and not a glowing vivid red. This means a good prognosis in spite of the severity of the clinical appearance. A tumor, insensitive to radiations, was excised and replaced by grafts. Patient is alive and well two years after excision.

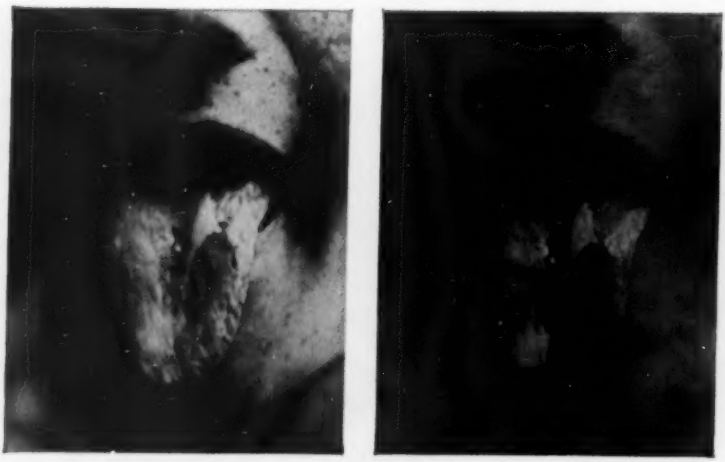


Fluorescence is a surface phenomenon. Sections show that the depth of the red fluorescing tissue is about 1 mm.

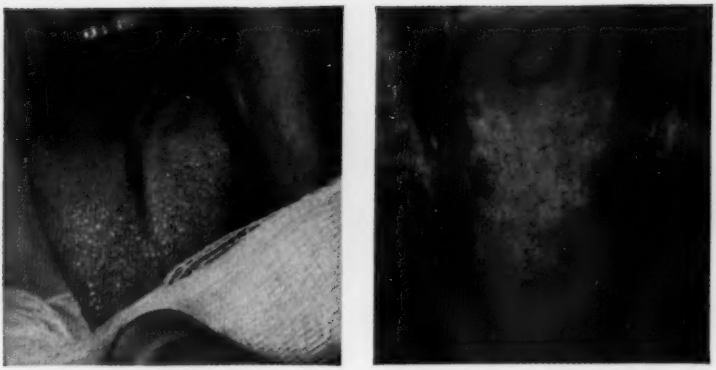
Drawing by Prof. William Montagna, Brown University, Providence



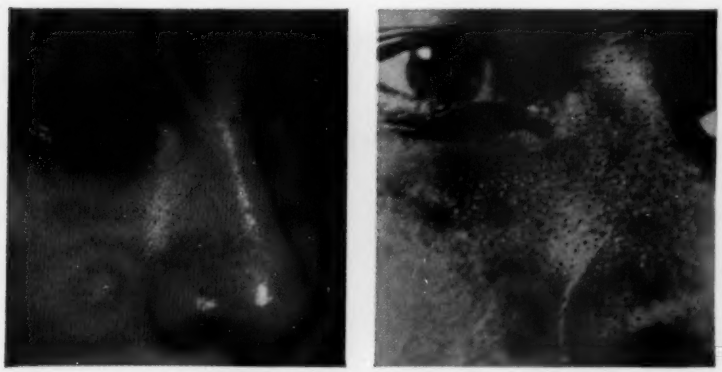
Metastatic carcinoma of the groin. The glowing red indicates a hopeless prognosis. This patient died a few months after the photograph was taken.



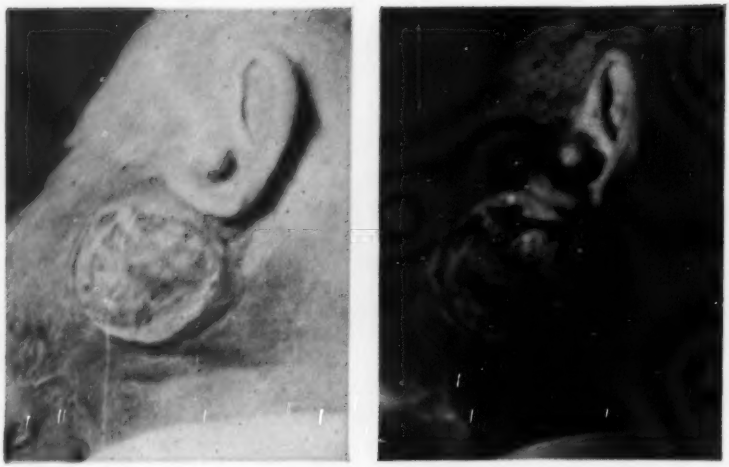
Glossitis exfoliativa (lingua geographica) under ordinary light *(left)* and in a dark room with the Wood light as the only source of illumination *(right)*. The rose-red or pink areas are normal. The purple-violet patches correspond to the eroded areas which lack normal epithelium. Normal tips of lingual papillae carry porphyrin-loaded secretions that are a shade of dull pink under the Wood light. This dull pink has been noted to be absent in avitaminosis B.



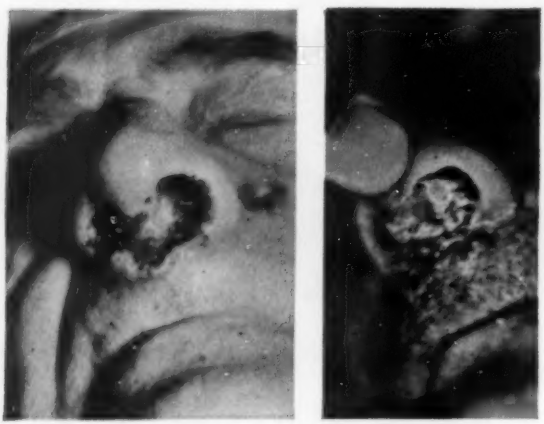
Normal tongue under ordinary light *(left)* and under the Wood light *(right)*. Normal lingual papillae are loaded with porphyrin. Deep violet instead of pinkish red (absence of porphyrin) indicates vitamin B deficiency.



Face of a 14-year-old mulatto girl in ordinary light *(left)* and under the Wood light *(right)*. Pores are clogged with porphyrin-loaded sebum.



Grade II epidermoid carcinoma of the cheek. Clinically, this lesion might be judged a carbuncle, a tubercular or syphilitic gumma, or an ulcerated nodule of granuloma fungoides. The red fluorescence produced by the ultraviolet radiation quickly indicated the lesion's true nature, which was confirmed by biopsy.



This lesion was biopsied three times and found inflammatory. Treatment was postponed. A fourth biopsy, directed to the spots showing in vivid red under the Wood light, confirmed Grade II epidermoid carcinoma.

Treatment of Poliomyelitis

A. B. BAKER, M.D.
University of Minnesota, Minneapolis

*Proper management of the patient with poliomyelitis includes prevention and treatment of possible secondary somatic disturbances.**

In many cases of poliomyelitis the entire nervous system is involved, disturbing the function of numerous organs. The complications vary with the different parts of the nervous system affected.

SPINAL POLIOMYELITIS

Cardiac involvement should be considered in all cases of spinal poliomyelitis. Generally no specific therapy is necessary, but too rapid activation of the patient should be avoided.

Thrombophlebitis is prevented by frequent turning of the patient, slight flexion and extension of limbs, and adequate hydration. Treatment consists of elevation and complete immobilization of the limb, local heat, and anticoagulants. Careful attention to thrombophlebitis also reduces the incidence of pulmonary embolism.

Urinary calculi can be avoided by frequent moving of the patient, adequate hydration, prevention of urinary tract infections, and use of an acid-ash diet low in vitamin D and supplemented with the basic aluminum carbonate gel, Basaljel, which reduces urinary excretion of phosphorus.

The use of protective masks by all visitors and attendants reduces spread of *upper respiratory infections.* Antibiotics should be used prophylactically and therapeutically. Routine turning of the patient at least every hour prevents hypostasis.

A mechanical breathing aid is necessary for *impaired respiratory muscles.* A tank respirator is best for severe cases. Close observation is necessary for proper regulation of the respirator, maintenance of the patient's comfort, and avoidance of pulmonary edema and atelectasis.

Transfer of the patient to a cuirass respirator or rocking bed is done as soon as possible. Short periods of positive-pressure breathing by a dome attachment or bag may facilitate various procedures.

BULBAR POLIOMYELITIS

A relief of *airway obstruction* should be attempted at first by postural drainage and mechanical suction. Tracheotomy is required for [1] early occurrence of dysphagia, [2] appearance of dysphagia with pooling of secretions in a rapidly progressing illness, [3] failure to keep airway open with conservative measures, [4] occurrence of reflex

*Poliomyelitis. XI. Treatment. Neurology 4:379-392, 1954.

spasm of laryngeal muscles or abductor paralysis of vocal cords, and [5] pooling of pharyngeal secretions in a respirator patient. Tracheotomy should also be done for patients with bulbar involvement who cannot be watched carefully.

The tracheotomy tube must be as large as possible and should be placed high in the neck. During the first few postoperative days, pharyngeal secretions should be aspirated and the patient constantly rotated to avoid pulmonary hypostasis. Atelectasis due to aspiration is treated by immediate bronchoscopic examination and antibiotics.

For *impaired respiratory regulation* because of involvement of the respiratory center of the medulla, a mechanical respirator, tracheotomy, and administration of oxygen through the tracheotomy tube are required.

Treatment for *impaired vasomotor regulation,* when the pontine vasomotor centers are damaged, is unsatisfactory. Oxygen therapy and supportive measures for shock may be of benefit.

Involvement of the pons causing *transient trismus* is treated by tracheotomy and nasal feeding.

Pulmonary edema may result from capillary injury due to hypoxia or infection or to an increase in intracapillary pressure caused by cardiac failure. Treatment consists of plasma transfusions, heart stimulants, and avoidance of too rapid administration of intravenous fluids.

Because of *fluctuations in acid-base balance,* the following blood chemical elements must be determined: [1] bicarbonate, [2] potassium, [3] sodium, [4] chlorides, and [5] urine reaction.

Whenever *vomiting* occurs, electrolyte and fluid losses should be measured and replaced.

HYPOTHALAMIC INVOLVEMENT

Hyperpyrexia may be prevented by placing the patient in an air-conditioned room, avoiding hot packs, and properly cooling the interior of the respirator. If hyperpyrexia occurs, antipyretics may be used but usually are not very effective. Alcohol and cold sponges, ice packs, massage of the limbs, and colonic irrigations with ice water may be helpful.

Early treatment of *gastric hemorrhage* may prevent shock and death. Therapy is that used for a bleeding gastric ulcer, with immediate transfusion, antacids, and ulcer diet.

Gastric distention usually occurs during convalescence and occasionally produces respiratory embarrassment and death. Such sequelae are prevented by stomach aspiration.

CEREBRAL INVOLVEMENT

Cerebral symptoms from hypoxia improve as soon as the cause of the hypoxia is determined and remedied. This is accomplished by suction, respirator, tracheotomy, or supplementary oxygen therapy, depending on the cause of hypoxia.

Sedatives and even strong analgesics should be avoided. Aspirin and careful nursing must be relied upon to keep the patient comfortable.

Visceral Epilepsy

DONALD W. MULDER, M.D., DAVID DALY, M.D., AND ALLAN A. BAILEY, M.D.
Mayo Clinic, Rochester, Minn.

*Paroxysmal gastrointestinal, cardiorespiratory, or genitourinary symptoms may occur either as an aura to an epileptic attack or as the equivalent of a convulsive seizure.**

DIAGNOSIS of visceral epilepsy is not difficult if an adequate history is obtained. The episodes are brief, stereotyped, and paroxysmal and are often associated with disturbances of consciousness of which the patient is unaware. Frequently, the attack is accompanied by motor movements, respiratory arrest, or vasomotor disturbances.

Examination usually reveals cerebral but not visceral disease. Electroencephalograms are often confirmatory.

Visceral epilepsy must be differentiated from primary visceral disease and psychosomatic disorders. The bizarre and atypical symptoms usually eliminate the possibility of primary visceral disease. Paroxysmal psychopathological symptoms may lead to an incorrect diagnosis of a psychiatric disorder. A brain tumor must be sought in each case, particularly if the attacks begin after adolescence.

Visceral symptoms appeared in 100 epileptic patients, 11 to 67 years of age; 50 had generalized convulsions and 46 paroxysmal psychopathologic phenomena, including hallucinations, automatisms, illusions, and disturbances of mood and perception. Localized cerebral lesions of the temporal lobes or anterior parasagittal regions responsible for the symptoms were found in 80 patients. Diagnosis of epilepsy was confirmed by history, neurologic studies, and, in some cases, observation of attacks.

Gastrointestinal symptoms such as nausea, abdominal discomfort, vomiting, borborygmi and belching, involuntary defecation, and excessive salivation occurred in 65 patients. Cardiorespiratory symptoms including palpitations, thoracic distress, hyperventilation, sweating, blanching, flushing, and pilomotor disturbances were observed in 50 patients, while genitourinary symptoms of incontinence and paroxysmal genital sensations were seen in 5. Visceral symptoms described as a paroxysmal sensation usually beginning in the epigastrium and rising rapidly to the throat, with unconsciousness, occurred in 17.

Management of visceral epilepsy includes localization, identification, and excision of the lesion causing the disorder, if possible. Otherwise hygienic, psychologic, and anticonvulsant measures are used.

*Visceral epilepsy. Arch. Int. Med. 93:481-493, 1954.

¶ NECROSIS OF THE SPINAL CORD may result from thrombophlebitis of the thoracic and lumbosacral regions. The parenchymal damage is ascribed by W. G. P. Mair, M.B., and J. F. Folkerts of National Hospital, London, to anoxia after impairment of the venous drainage by thrombosis. The process may spread from the anterior or posterior spinal veins by the communicating annular vessels on the lateral aspect of the cord, producing changes identical with the condition found in subacute necrotic myelitis. Differentiation from tumors is difficult because of the similar upper and lower neurone symptomatology, including pains in the legs, atrophy of muscles, loss of tendon reflexes, and sensory and sphincter disturbances.

Brain 76:563-575, 1953.

¶ VESICULAR SKIN LESIONS of comatose patients closely resemble second-degree burns. Since the vesiculation is similar whether the coma results from carbon-monoxide toxemia, asphyxia from inhalation of natural gas, barbiturate intoxication, or spinal anesthesia, the dermal changes are not pathognomonic of the type of coma, explains Clarence W. Olsen, M.D., of Los Angeles. The lesions may have medicolegal significance, being sometimes misinterpreted in pressure areas as due to neglect; after carbon-monoxide poisoning, the vesiculation may be erroneously diagnosed as a wound or contusion. Causes of such lesions during coma are manifold, but are usually trophic disturbance, enzyme inactivation, softening by hyaluronic acid, or alteration of vascular permeability.

J. Nerv. & Ment. Dis. 118:412-415, 1953.

¶ ENURESIS IN MULTIPLE SCLEROSIS may be controlled by administration of anticholinergic drugs and adjustment of the patient's activity. Because chronic cystitis and fluid intake increase vesical irritability, S. Richard Muellner, M.D., of Harvard University, Boston, advises antibiotic treatment for infection and restriction of fluids. Medication need not be continuous and is based on the behavior pattern of the bladder as shown by the frequency of urination and the amount excreted. Usually 0.4 mg. (1/150 gr.) of atropine sulfate by mouth will abolish hyperirritability for two to four hours; the dose may be taken a half-hour or more before arising to avert morning urgency. Bellafoline containing 0.25 mg. of total belladonna alkaloids per tablet or Octin representing 0.12 gm. of methylisoöctenylamine per tablet may be better tolerated.

J.A.M.A. 154:975-977, 1954.

Surgical Treatment of Peptic Ulcer

A REVIEW OF 4 CURRENT ARTICLES

Tubular Gastric Resection

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University of Minnesota, Minneapolis

ALTHOUGH the acid-peptic diathesis can be managed with an adequate gastric resection, postoperative side effects are frequent with standard Billroth I or II procedures. Postprandial distress often occurs after the usual gastric resection. Intolerance to some foods and weight loss are also common.

During the last fifty years many operations have been attempted to cure the ulcer diathesis permanently and yet avoid some of the objections to adequate gastric resection. However, up to the present time, only a 75% resection utilizing a Billroth I or II technic has proved satisfactory in preventing recurrent ulcer.

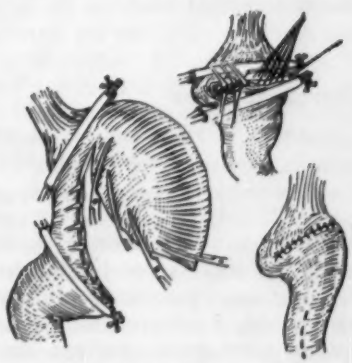
Tubular gastric resection with transverse gastroplasty apparently has distinct advantages over older operations for peptic ulcer. Fecal fat loss after the procedure is only 5% of the ingested total; hence, postoperative weight loss is less frequent. Postprandial distress is also less severe.

The operation is useful for all types of duodenal ulcer and also for relief of esophageal narrowing from regurgitation of acid-peptic juice. Gastric ulcers are better handled with segmental resection or other standard operations.

Tubular gastric resection is performed through a midline incision with an extrapleural sternal split extension to the fourth left interspace. The vagus nerves are preserved. The fundus and greater curvature are excised thus leaving a small periesophageal gastric remnant, the lesser curvature, and the antrum.

Three-fourths of the stomach mucosa and an even greater percentage of the acid-secreting area are excised. However, since the antrum remains, the weight of the removed tissue is less than in 75% Billroth resections.

The superior cut edge is anastomosed to the inferior edge, and



Steps in tubular resection

*Evolution and evaluation of an acceptable operation for peptic ulcer. Rev. Gastroenterol. 20:611-626, 1953.

the transverse gastroplasty is continued toward the lesser curvature side. Shoe-stringed intestinal clamps about the proximal and distal areas of resection provide adequate temporary hemostasis while an inner layer of continuous catgut is employed to give more permanent hemostasis. Interrupted 0000 silk sutures complete the anastomosis.

Since a vagotomy is not performed, a Heineke-Mikulicz pyloroplasty, utilizing a longitudinal incision over the pylorus, which is closed transversely, is necessary only when the duodenum is scarred or bleeding is active. In such cases the artery may be ligated under direct vision. The difficulties that are ordinarily encountered in a Billroth II operation with the closure of a scarred duodenum are thereby avoided.

No recurrent ulceration has been seen in 90 patients having tubular resections. Retention of the antrum in no way encourages future ulcer distress since the antrum is not excluded from the continuity of the intestinal tract.

Marginal Ulcer

SAMUEL F. MARSHALL, M.D., AND R. KENT MARKEE, M.D.*

Lahey Clinic, Boston

GASTROJEJUNAL ulcer, a serious sequel of surgery for peptic ulcer, is noted more frequently after gastroenterostomy than after an adequate gastrectomy, but can occur after any gastrojejunal anastomosis. Duodenal ulcer is the primary lesion in most cases.

The etiology of marginal ulcer is probably similar to that of duodenal ulcer. Failure to adhere to a diet after the previous operation, indiscriminate use of alcohol and tobacco, and emotional stress can contribute to recurrence.

Gastrojejunal ulcer may occur at any age, but the sex incidence is about the same as for other chronic peptic ulcers, being predominant in males.

Use of a short proximal jejunal loop is of some importance in the formation of the ulcer. The loop should be long enough to prevent any tension on the anastomosis but short as possible to permit small bowel absorption. An antecolonic anastomosis may be formed with a short loop, especially if a thick gastrocolic omentum is removed.

T-tube landmark

The duodenal ulcer should be removed, with few exceptions, during the original procedure. If the common bile duct seems in danger, a long-armed T tube can be inserted as a landmark during dissection (see illustration).

The average length of time between the previous operation and the onset of symptoms is six years. Although quite similar to those of the original ulcer, marginal ulcer symptoms are frequently more severe and more rapidly progressive.

*Gastrojejunal ulcer. Am. Surgeon 20:248-259, 1954.

Hemorrhage may be the first symptom and is extremely important. Pain to the left of the midline and above the umbilicus, nausea and vomiting, diarrhea, and weight loss also may occur.

The diagnosis is established on the symptoms and roentgenographic findings. The ulcer niche may be difficult to demonstrate clearly with barium studies, and superimposed small intestine may prevent visualization of the stomal ulcer. A nonfunctioning anastomotic stoma is significant.

Hemorrhage is a more frequent complication than with duodenal or gastric ulcer but may be treated conservatively unless severe or uncontrollable. Obstruction is common, resulting in a large measure from the cicatrization of a previously healed jejunal ulcer. In such a case, the duodenal ulcer may reactivate.

Perforation, instead of opening into the peritoneal cavity, ordinarily occurs in adjacent organs—the colon, mesocolon, abdominal parietes, pancreas, or liver. A gastrocolic fistula may appear.

A gastrojejunal ulcer will sometimes heal with careful medical treatment in a hospital, but surgery should be instituted early when healing is not observed.

Partial gastric resection is done when the ulcer arises after a gastroenterostomy. If roentgenograms demonstrate that a previous subtotal gastrectomy has been insufficient, re-resection should be employed, but the surgeon should search for an unremoved antrum.

When the original resection has been adequate, an intraabdominal vagotomy is done, but again an unremoved antrum should be sought. Staged operations are necessary for correcting gastrojejunocolic fistula.

The over-all operative mortality rate is about 3%, and the recurrence rate after a corrective procedure is less than 10%.

Duodenal Ulcer Stump

LEON GINZBURG, M.D.*

New York University, New York City

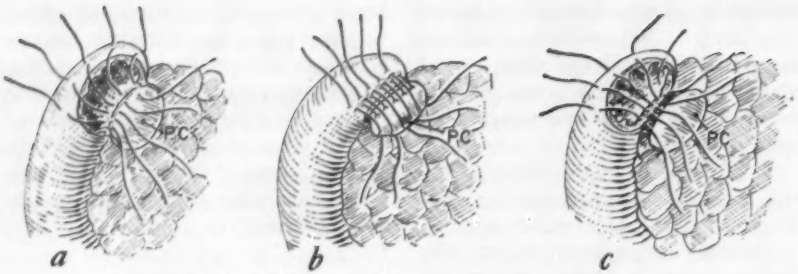
CLOSURE of the duodenum after gastrectomy for a complicated penetrating or perforating ulcer should be adapted to the deformity and pathologic change.

At the beginning of dissection, periduodenal adhesions should be freed and the second part of the duodenum mobilized to define the ulcer involvement before a decision is made to do a postpyloric resection.

After proximal gastric transection, the lower end of the stomach is retracted gently to the right, and the dissection is carried down to and around the pylorus.

If the ulcer is along the upper duodenal border with inflammatory contracture, duodenal division should be done to preserve as much healthy tissue as possible. Transection is parallel to the pylorus and extends downward to excise the diseased segment along the upper border, if possible without approaching the common duct region too closely.

*Management of the difficult duodenal stump. S. Clin. North America 34:473-493, 1954.



Operation for the large perforating ulcer of posterior wall

The upper indurated area is infolded with mobile, relatively normal duodenal wall by utilizing a plicating fixation stitch. Further closure can be accomplished with seromuscular Lembert sutures. The first layer is reinforced at the upper angle by suturing the anterior wall to the pancreatic capsule. Pseudodiverticula can be totally excised or a small portion of the distal base left behind and oversewn.

An ulcer involving the inferior duodenal border is much less common. The upper border is essentially unchanged and can be mobilized sufficiently after transection to close over the lower border by a similar type of plication-fixation stitch.

If circumferential stenosis has occurred distal to an ulcer, duodenal division is done through the stenosis. The remaining opening is narrow and can be closed with 2 rows of Lembert sutures.

Duodenal closure after transection for a postbulbar ulcer is not difficult when the ulcer is superficial and quite distal. When the proximal duodenum shows much chronic inflammatory change, division is made proximal to a clamp placed just distal to the pylorus. The stump is inverted with individual mattress sutures passed over the clamp and, if necessary, rotated posteriorly and buttressed against the pancreas or oversewn with omental remnants. When a long proximal stump is to be left, the extrinsic blood supply should be handled conservatively.

A wedge-shaped excision of the ulcer or deformity is performed for a penetrating or relatively small perforating ulcer of the posterior wall sealed off against the pancreas. An indurated area is left distally, if necessary, and as much remaining wall as possible is conserved. Closure is then performed transversely with plication-fixation sutures. The resulting conical stump is inverted with Lembert sutures.

A large, chronically perforating ulcer of the posterior wall is the most difficult problem to handle, because a cleavage plane is lacking between the wall and the pancreas.

After unroofing the sealed-off perforation, the anterior duodenal wall is incised distal to the pylorus and the wall is divided around to the thickened perforation bed which is left intact (Fig. *a*).

Closure is accomplished by ad-

vancing the mobilized anterior wall to the ulcer bed and then fixing the wall to the bed and to the pancreatic capsule with 2 or more rows of interrupted sutures (Fig. *b*).

The technic of freeing the posterior wall from the distal edge of the ulcer bed is adaptable only to small lesions, since pancreatic tissue may be injured or the posterior wall thinned or partially devascularized (Fig. *c*).

Resection of the ulcer and bed frequently provokes profuse bleeding or injury to pancreatic tissue.

Simple anterior wall ulcers are ordinarily not difficult to manage.

A retrocolic, short-loop Hofmeister gastrojejunostomy is performed after duodenal stump closure. Stenosis of the intestine from excessive inversion or purse-stringing at the angles of the end-to-side gastrojejunostomy may be avoided by terminating the suture line in the middle of the stoma.

Some ulcers should be treated with a relatively short-loop gastroenterostomy and careful subdiaphragmatic vagotomy instead of gastrectomy. Included in this classification are: [1] large posterior wall ulcers extending close to the common duct; [2] ulcers so located that distal dissection is dangerous and proximal closure is not safe because of inflammatory changes; [3] posterior wall ulcers involving more than half the duodenal wall circumference; and [4] ulcers involving both anterior and posterior walls with perforation through one wall.

Antroduodenectomy and Irradiation

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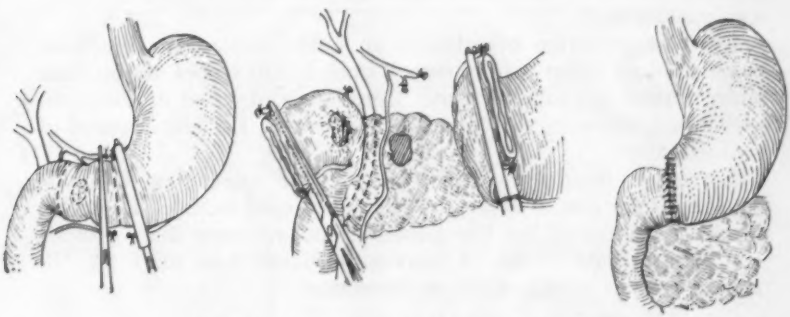
THE mortality rate after subtotal gastrectomy for duodenal ulcer is low, but the morbidity rate is high. The dumping syndrome and the afferent loop syndrome and failure to gain weight postoperatively in spite of apparently adequate resection are all too common occurrences.

*Surgical technique in the treatment of duodenal ulcer by antroduodenectomy and x-ray irradiation. Brit. J. Surg. 41:359-365, 1954.



Antroduodenectomy; excision and closure

Operation should be done when a chronic ulcer is unrelieved by medical therapy or when severe complications, such as hematemesis or obstruction, occur. Postoperative morbidity can be reduced by removing the ulcer, resecting the least possible amount of stomach, and maintaining a normal food channel. The patient should be subjected to little operative risk. Satisfactory results may be obtained by excision of the antrum and ulcer-bearing portion of the duodenum, followed by gastroduodenostomy (see illustration) and postoperative roentgen therapy to reduce gastric secretion.

An accurately applied total of 2,000 r of irradiation is administered to the stomach over a period of three weeks. Serial histamine test meals show that acid secretion is considerably decreased after therapy. Gastric biopsies reveal some inflammation and moderate atrophy of acid- and pepsin-secreting cells. No disability occurs.

When the anastomosis has begun to function, magnesium trisilicate and belladonna are given every four hours until irradiation therapy is completed.

Postoperative results were satisfactory in 29 of 31 patients having antroduodenectomy and postoperative irradiation.

Acholia and Obstruction of Bile Duct

HERBERT R. HAWTHORNE, M.D., AND JULIAN A. STERLING, M.D., UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, report the recovery of 2 patients with choledocholithiasis despite severe hepatic insufficiency associated with acholia.

In both cases, jaundice and other symptoms of biliary tract disease led to surgery. Stones were removed from the common duct and gallbladder, and drainage was established with a T-tube insertion. White bile drained from the T tubes for three days to three weeks postoperatively before hepatic function was restored sufficiently to permit excretion of normal bile. During this time icterus and serum globulin increased, but the changes regressed after normal bile flow was reestablished.

Decrease in serum bilirubin in an icteric subject may indicate hepatic failure rather than recovery, since jaundice does not increase when normal bile fails to form. Correlation of urine urobilinogen with blood bilirubin and liver function tests is the best method of evaluation.

Immediate treatment for the patient with impending or actual hepatic failure due to biliary obstruction should include antibiotics, surgical drainage of the bile passages, and adequate fluid, protein, and carbohydrate intake. A secondary operation to route the bile stream into the intestines can be done later.

Acholia. Am. J. Gastroenterol. 21:355-365, 1954.

Common Bile Duct Anatomy

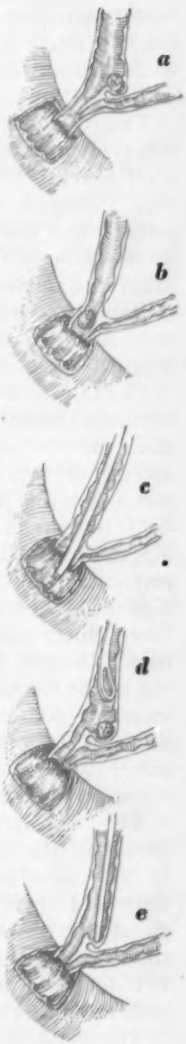
E. S. R. HUGHES AND R. H. KERNUTT
Royal Melbourne Hospital, Melbourne, Australia

*Knowledge of the anatomy of the terminal parts of the pancreatic and common bile ducts is of special value to radiologist, pathologist, and surgeon.**

ACCURATE information regarding passage of the pancreatic and common bile ducts through the wall of the duodenum is often difficult to obtain. Cholangiograms do not reveal anatomic relationships. Assessment during surgery is also unfeasible since, near the duodenum, the ducts are embedded in the posterior aspect of the pancreas and the duodenal papilla is concealed by the transverse folds of the duodenum.

Information was obtained from examination and measurement of 30 dissected autopsy specimens.

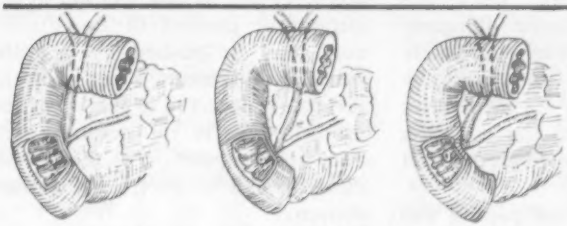
The pancreatic duct of Wirsung and the common



CLINICAL SIGNIFICANCE

A silent stone may rest in the lower end of the common bile duct (*a*). In the intramural portion of the common duct either a stone (*b*) or a tube (*c*) may obstruct the pancreatic duct. A stone in the terminal common duct may evade removal by the usual methods (*d*). A probe may give a false impression of having passed through the intramural segment into the duodenum (*e*).

*The terminal portion of the common bile duct and of the pancreatic duct of Wirsung. Australian & New Zealand J. Surg. 23:223-235, 1954.



Complete contact Complete separation Partial contact

Different relationships of common duct to duodenum

bile duct are enveloped in the same adventitial sheath just outside the duodenum. This apparent fusion of the two ducts occurs just proximal to the duodenal wall at a distance of 2 to 10 mm.

The lumina of the two ducts do not always become confluent at this level but are often separated by a thin V-shaped septum. In 11 instances the septum was complete, allowing no ampulla; in 19 specimens the septum was incomplete at the distal end, providing a common channel of 1 to 12 mm. in length.

The lumina of both ducts narrow abruptly when the walls of the ducts become contiguous. The diameter of the common bile duct just above this junction varies from 4 to 14 mm. and is usually about 8.5 mm. The common channel is ordinarily less than 5 mm. long. The intramural portion of the combined ducts ranges from 5 to 25 mm. in length. The sudden narrowing of the terminal end of the common bile duct may have more significance in biliary dyskinesia than either spasm or fibrosis of the sphincter of Oddi.

The common bile duct approached the duodenum obliquely in 26 cases and was completely separated from the duodenum by pancreatic tissue in 7. In 4 cases the entire length of the common bile duct was in immediate contact with the duodenum.

The major duodenal papilla was seen in all specimens; in no case did the common bile duct and the pancreatic duct of Wirsung possess separate papillae. The duct of Santorini opened into a minor papilla in 27 of the 30 specimens. A single diverticulum of the duodenum was found in close relation to the major papilla in 7 of the 30 specimens.

Gallstones in the common duct gravitate to the distal portion of the duct and tend to lodge immediately proximal to the intramural part. The stones may remain without causing symptoms. Calculi which enter the intramural segment of the common duct will cause obstructive jaundice.

Interpretation of cholangiograms must be based on the foregoing anatomic factors. Contrast medium in the duodenum may overlap the terminal common bile duct shadow. Small stones ordinarily missed may be identified as indentations on the bile duct proximal to the point of narrowing. The usual abrupt narrowing of the common duct lumen should not be interpreted as stricture, stenosis, or spasm.

Common bile duct stones which lie proximal to the intramural portion of the duct can be extracted with surgical scoops, but some stones impacted in diverticula at this level are missed. Stones in the intramural portion of the duodenum may be pushed by a probe into the duodenum; sometimes the surgeon is deceived as the tip of the probe lodges in the common bile duct in juxtaposition to the duodenum instead of entering the duodenum.

Results of operative division of the sphincter of Oddi are variable. Postoperative stenosis may occur at the site of sphincterotomy.

Management of Abdominal Incisions

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University of Colorado, Denver

*Good technic in opening and closing the abdomen is essential for a low incidence of wound complications.**

THE most grave complications of surgical wounds are dehiscence or evisceration, residual incisional hernia, and infection severe enough to delay healing or require further surgery.

The less dangerous complications include stitch abscess, an infection around a drain, and small subcutaneous collections of serum or blood clots that do not interfere with convalescence.

Even strict aseptic preoperative preparation cannot prevent wound infection if technic is poor. Devitalized tissue or blood clots left in the wound serve as culture media and permit bacteria of low virulence to produce infection.

The incision should be made cleanly, with as few strokes as possible. Ideally, an incision should go to the deep fascia with 1 cut. Each additional stroke devitalizes more tissue.

The layers of the abdominal wall should not be widely separated as the incision is developed, since this diminishes the blood supply and viability of the tissues.

Unnecessary tying of small bleeders increases the amount of foreign material in the wound. Most small bleeding points in the subcutaneous tissues will retract and seal spontaneously.

Oozing from wound edges is temporarily controlled with gauze pads, and persistent bleeders are clamped and tied later. Large vessels may be grasped before or immediately after being cut.

Only the tip of the vessel should be clamped and tied because everything distal to the tie becomes necrotic. If a large amount of tissue is included with the vessel, the resultant necrotic mass will interfere with healing and also increases the possibility of infection.

The sutures for wound closure must be strong enough to hold against postoperative stress. Individual layer closure with cotton sutures is usually sufficient for pelvic or lower abdominal incisions.

Wounds of the upper abdomen are subjected to great stress from distention and coughing and should be reinforced with stronger material, preferably stainless steel wire, No. 30 or 32, which is strong

*Management of surgical incisions of the abdomen. Am. Surgeon 20:282-287, 1954.

enough to prevent wound separation and causes little foreign body reaction. If wire is used, the peritoneum is first closed separately with a running suture of chromic catgut to prevent the accidental inclusion of intraabdominal structures in the wound.

The deep fascia, the muscle, and the preperitoneal fascia are incorporated in a figure-of-eight suture. The first loop is made at a distance from the wound edge on both sides. The second loop insures accurate approximation of the anterior fascial edges. The suture is then carefully tied with a triple throw square knot.

The wire sutures are placed about 1 in. apart. Interrupted cotton sutures are placed between the figure-of-eight sutures to complete the closure of the anterior fascia.

The wound is irrigated with saline at intervals during the closure to remove clots, bacteria, particles of devitalized tissue, and foreign debris.

Approach to Midthoracic Esophageal Cancer

KOMEI NAKAYAMA, M.D., CHIBA UNIVERSITY, CHIBA, JAPAN, finds that a right thoracoabdominal incision simplifies the technic, decreases the bleeding, and reduces the operative time for radical surgical excision of carcinoma of the upper and midthoracic esophagus.

The abdominal and thoracic cavities are opened by one incision and, after division of the sixth and seventh or seventh and eighth costal arches, the extent of the esophageal lesion and the amount of metastasis around the celiac axis can be evaluated at about the same time.

If the stomach can be adequately mobilized without dangerously interfering with the circulation, the lesion in the esophagus is extirpated and the gastric tube is brought up through the diaphragmatic hiatus to the upper remnant of the esophagus for an intrathoracic esophagogastric anastomosis.

Sufficient blood supply reaches the apex of the tube if arterial arches along the curvatures are untouched and if either the right gastric artery along the lesser curvature or the right gastroepiploic artery on the greater curvature is not ligated. Improper ligation may result in necrosis or infection.

The operation is not feasible when the lesser curvature is short or is appreciably scarred by a healed gastric ulcer or when ligation of the arterial arches along the lesser curvature is necessary to remove lymphatic metastases near the celiac axis. Esophagogastric anastomosis should be employed in such cases.

Approach to midthoracic esophageal carcinoma for its radical surgical treatment. Surgery 35:574-589, 1954.

Prophylactic Antibiotics for Wounds

ROBERTSON PRATT AND JEAN DUFRENOY
University of California, San Francisco

*Only severe wounds that are deep, cover an extensive area, are greatly contaminated, or are prone to infection should be treated prophylactically with antibiotics.**

SINCE antibiotics may cause sensitization or emergence of resistant strains, the agents should not always be administered to prevent wound infection.

Even when used, antibiotics should complement, but not replace, other treatment. For example, dead tissue, tissue debris, and foreign material should be removed before antibiotics are given to allow direct contact of the drugs with the organisms and to prevent inflammatory reactions.

To inhibit growth of all potential pathogenic invaders, combined therapy is preferable to use of a single drug.

When topical treatment alone is adequate, antibiotics not generally used for systemic medication should be employed to avoid unnecessary sensitization or resistance to the common antibiotics. Systemic and topical preparations should be given together for penetrating wounds or lesions that cannot be cleansed.

The causal organism should be identified and sensitivity tests made before therapy is instituted for an established infection. Morphology and biochemical reactions of many organisms change after sublethal exposure to antibiotics, making identification difficult. If the antibiotic is administered as an emergency measure, culture should be taken when the drug is given. If improvement does not occur, antibiotics may then be chosen logically rather than at random after the causal organism is identified.

ANTIBIOTICS

Penicillin and streptomycin—For severe wounds, prophylactic injection of penicillin in doses of 750,000 to 1,000,000 units daily for five days is recommended. Alternatively, a single injection of a suitable depot penicillin such as 600,000 to 1,000,000 units of dibenzylethylenediamine dipenicillin may provide adequate concentration of penicillin in the blood.

Streptomycin and dihydrostreptomycin in equal divided doses totaling 1 gm. to 2 gm. daily are often administered jointly with penicillin to prevent infection by gram-negative organisms.

The combination of penicillin and streptomycin usually provides as wide antibacterial prophylactic protection as the broad-spectrum

*Emergency use of antibiotics in the treatment of wounds. Texas Rep. Biol. & Med. 12:145-159, 1954.

drugs and is less likely to alter the microflora or cause digestive disturbances.

Bacitracin, tyrothricin, and polymyxin—Bacitracin has the same range of antibiotic spectrum as penicillin, but may control penicillin-resistant strains of bacteria. This antibiotic is often used for neurologic infections and compound skull fractures. Bacitracin may be applied directly on the surface of brain tissue and other parts of the central nervous system.

Pseudomonas aeruginosa and *Proteus vulgaris* infections often supplant skin infections due to gram-positive organisms treated with bacitracin alone, hence mixed antibiotic therapy is recommended.

Application of ointments containing 500 μg. of tyrothricin and 500 units of bacitracin per gram are used to prevent complications due to staphylococci and streptococci.

Bacitracin is also used in conjunction with polymyxin in ointments to control both gram-positive and gram-negative pathogens. Such ointments contain 500 units of bacitracin and 10,000 units of polymyxin B per gram of ointment base.

Terramycin—The broad-spectrum antibiotic Terramycin is effective against most of the organisms of wounds and of gas gangrene and, therefore, is used for emergency treatment of patients acutely ill with wound infections. The drug should not be used indiscriminately for prophylaxis because resistant staphylococci may emerge.

Aureomycin—Suppurative skin lesions will subside with aureomycin. A dust preparation that contains 1 gm. of aureomycin, 1 gm. of a methyl ester of para-oxybenzoic acid, and 3 gm. of monoacetyl urea may be useful when topical application is warranted but when wet preparations are inadvisable.

Chloromycetin—Organisms that are resistant to penicillin and to streptomycin may be affected by Chloromycetin. The agent can be applied in propylene glycol or topically as a dust, 5% in lactose. Sensitization of the host or resistance among potential pathogens is not readily induced.

Ilotycin and Magnamycin—For treating established infections caused by gram-positive organisms resistant to penicillin, Ilotycin and Magnamycin are especially useful.

SPECIFIC INJURIES

Facial injuries—By controlling infection and subsequent tissue destruction, antibiotics prevent unnecessary scarring. Antibiotics are also of value with plastic surgery and skin grafting in the treatment of facial injuries.

Eye injuries—Even apparently superficial lesions caused by penetration of small particles into the cornea or eyelid require local anesthesia, removal of foreign bodies, and instillation of an ophthalmic preparation of aureomycin, Terramycin, or Chloromycetin. Sulfonamides should not be used with cocaine. Healing is aided if both eyes are immobilized by bandaging.

For bursting of the eyeball, first aid includes local instillation of cocaine and of an ophthalmic antibiotic preparation, concomitant sys-

temic antibiotic administration, and bandaging.

With burns by chemicals, local anesthesia should be used and then the eye should be washed repeatedly with several liters of a tepid isotonic and a buffered saline solution. An antibiotic may be applied with an ophthalmic preparation of cortisone. Cortisone is used to prevent inflammation and excessive scar formation which might impair vision.

Hand and foot injuries—Treatment of hand and foot lesions should be planned to prevent generalized infection and to provide prompt surgical care.

Burns—Prophylactic therapy with antibiotics, especially Terramycin, may be advisable if a large area of skin is destroyed or for penetrating burns. Systemic and topical administration are generally used together.

Radiation injury—Antibiotics reduce the hazard after resistance to infection is decreased by excessive but sublethal irradiation.

Shock—Since antibiotics administered orally are poorly absorbed during hemorrhagic or traumatic shock, the drugs should be employed intravenously. Besides blood and plasma, sterile saline and plasma substitutes such as polyvinylpyrrolidone are suitable vehicles.

Varicose Veins of the Arm

DONALD M. CLARK, M.D., MONADNOCK COMMUNITY HOSPITAL, ANDOVER, MASS., AND RICHARD WARREN, M.D., HARVARD UNIVERSITY, BOSTON, note that bilateral dilatation of the veins of the upper extremity can produce pain in the arms and paresthesia from shoulder to fingers. The primary etiology is probably congenital weakness of the venous walls.

The arms feel heavy and weak. A bulbous, compressible swelling in the subcutaneous region of the axilla, typical of a localized venous dilatation, may be found. The condition is difficult to recognize if the patient is obese.

The pain must be differentiated from that caused by infectious polyneuritis, myocardial infarction, trauma to the shoulder and axilla, arthritis, spinal cord tumor, ruptured cervical intervertebral disk, thrombophlebitis of the axillary brachial veins, cervical rib, and the shoulder-bracing syndrome of soldiers.

A venogram in 1 of 2 recent cases showed dilatation of the right axillary vein. A resection of the axillary and the basilic veins on the right side relieved the symptoms. In the other case, bilateral removal of axillary and basilic veins was done. Recovery was complete, although 1 arm was temporarily paralyzed by brachial plexus injury at the time of the operation.

Idiopathic varicose veins of the upper extremity. New England J. Med. 250:408-412, 1954.

Cervical Spine Injuries

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University of Virginia, Charlottesville

*When neck bones are fractured or dislocated, conservative therapy by skeletal traction is almost always preferable to laminectomy, spinal fusion, or plaster supports.**

THE reestablishment of alignment of the spine is the most effective way to decompress and protect the spinal cord after acute injury to the cervical spine. Surgery may be a more rapid method than traction to obtain this result, but the hazards of operating on a critically ill patient offset the advantages of saving time. Moreover, the final results with surgery are not always as good as when traction is applied.

Cervical laminectomy should be limited to patients with longstanding displacement and fusion who have had progressive loss of spinal cord function.

Traction with skull tongs is effective, easy on the patient, and convenient. Success depends more on application of principles than on the particular instrument. The main object is to apply traction in the proper direction and of the least weight needed to keep bones in proper alignment until the soft tissues regain sufficient tone to retain bone position without traction.

The tongs should have a spread of about 11 cm., never less than 10. Many tongs manufactured during World War II have a spread of only 7 cm. and are practically useless. Most tongs are now being produced with sufficient spread.

To apply the tongs, the scalp is painted to show the midline and the approximate plane of the cervical articulations through the mastoid tips. With the traction bar of the tongs turned down to touch the midline, points for drill holes are marked in the plane of the cervical articulations.

Stab wounds are only as large as the drill guard. Drill holes, of

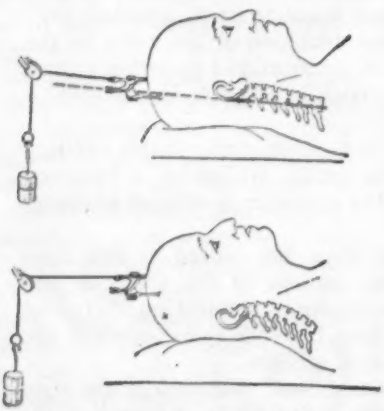


Fig. 1. Traction is applied in the plane of the articulating facets *(top)*. If applied in a plane anterior to that of the articulating facets, deformity may be increased *(bottom)*.

*Skeletal traction in treatment of injuries to the cervical spine. J.A.M.A. 155:29-32, 1954.

smaller bore than the tong points, are 4 mm. deep. Points of the tongs are inserted and the instrument is tightened and locked.

Failure can result from drilling holes too close together so that the points cannot be tightened sufficiently to reach the bottom of the holes, from not forcing drill points into the skull as far as the guard, and from failure to tighten tongs every few days. Most tongs now have improved dull points, but complications have resulted from tongs with sharp points which, in tightening, perforated the skull.

Care must be taken to place tongs far enough back. If applied in a plane anterior to the articulating facets, traction is ineffective and may even increase deformity of patients with anterior displacement of the upper segment (Fig. 1).

Usually no effort is made to speed reduction. Instead, a slight corrective pull is applied that provides immediate protection for the spinal cord and begins the reduction, which may be complete within an hour. The position is ordinarily not verified by roentgenogram until the next day. If reduction is then incomplete, weight is added gradually. The weight for initial reduction varies according to the level of injury about as follows:

1st cervical vertebra	5 to 10 lb.
2nd cervical vertebra	6 to 12 lb.
3rd cervical vertebra	8 to 15 lb.
4th cervical vertebra	10 to 20 lb.
5th cervical vertebra	12 to 25 lb.
6th cervical vertebra	15 to 30 lb.
7th cervical vertebra	18 to 35 lb.

When vertebrae have been pulled far enough apart to slip back into place, no more weight is added

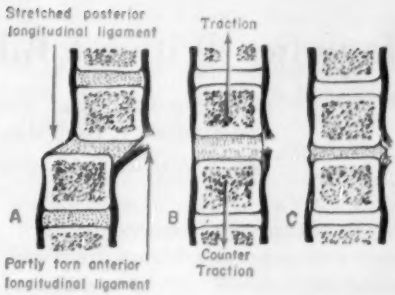


Fig. 2. *A*, condition of soft tissues resulting from dislocation of vertebrae. *B*, wide interspace produced by forceful pull against weakened ligaments. *C*, favorable position for healing.

even though some deformity persists. The same pull or even less usually completes a satisfactory reduction in a few days.

If a very strong pull should be needed, the weight used usually should not be more than double the minimum weight given, and lateral views should be made every fifteen minutes for at least an hour. Traction should not stretch soft tissues by widening the intervertebral space, as might happen in case of badly torn ligaments (Fig. 2). To facilitate soft-tissue repair, the intervertebral space during healing should be rather less than that of adjacent interspaces. A weight of about 5 to 7 lb. maintains the position.

Duration of treatment varies. In most cases, an adjustable brace can be used after about six weeks, continuing for three months or longer. However, high fractures and dislocations, particularly of the atlantoaxial type, require light traction for ten to twelve weeks and a support for at least six months.

Jaundice Without Biliary Atresia

RUTH C. HARRIS, M.D., DOROTHY H. ANDERSEN, M.D.,
AND RICHARD L. DAY, M.D.
Babies Hospital and Columbia University, New York City

*Since obstructive jaundice may occur with a normal biliary tree, an adequate period of observation should precede surgical intervention.**

SEVERAL diseases of infancy give evidence of biliary obstruction even though the child's biliary tree is patent.

These conditions, which may be confused with congenital biliary atresia, include acquired hemolytic anemia, serum hepatitis, hepatitis of unknown etiology, and erythroblastosis fetalis from Rh or ABO incompatibility.

Because the mortality rate for exploratory operations of infants under 3 months of age is high and anesthetic agents may harm an already damaged liver, every effort should be made to establish the diagnosis without resorting to operative intervention.

The signs and symptoms of infants who have obstructive jaundice with intact biliary trees are similar to those of infants with congenital biliary atresia. Many of both groups appear to be healthy and well nourished in spite of jaundice, pale stools, and dark urine. However, patients with hepatitis of unknown etiology appear chronically ill, with weight loss and evidence of poor tissue turgor.

Hemolytic jaundice may be apparent within the first few days of life or after two months; but with atresia, the jaundice appears during the first few weeks. Knowledge of Rh or ABO incompatibility is a valuable clue to the etiology of the jaundice.

No single laboratory test can be used to differentiate intrahepatic types of obstructive jaundice from biliary atresia; a combination of tests should be utilized.

The direct serum bilirubin is elevated in all instances, but is more apt to be fluctuating when the biliary tree is normal. An increase in urine urobilin is a sign of a prehepatic or hepatic derangement. However, with infants, a normal or low urine urobilin output does not mean that the external bile duct system is obstructed.

The cephalin flocculation and thymol turbidity values are usually negative. The zinc sulfate turbidity is a more delicate measure of serum globulin and more helpful in diagnosis, being negative with atresia but frequently elevated with other forms of obstructive jaundice.

Studies of the serum cholesterol and cholesterol esters are valuable, the esters usually being low in jaun-

*Obstructive jaundice in infants with normal biliary tree. Pediatrics 13:293-306, 1954.

dice other than from biliary atresia. When the basic cause of the jaundice is hemolytic anemia, the reticulocytes are increased. The prothrombin time and alkaline phosphatase determinations are of little help in differential diagnosis.

Histologic studies of the liver show similar results for all patients with obstructive jaundice and normal biliary trees. Multinucleated giant liver cells, much myelopoiesis and erythropoiesis, plugging of bile canaliculi, and slight bile duct proliferation are found. Livers from patients with hepatitis of unknown etiology have more inflammation, cell necrosis, and portal fibrosis than the others.

If diagnosis is impossible from clinical and laboratory information, exploration of the biliary tract with liver biopsy and Diodrast cholangiography may be necessary. This procedure should be delayed until an adequate period of observation has elapsed and until the infant is over 4 months of age.

Flat Feet in Childhood

ALBERT B. FERGUSON, JR., M.D., PITTSBURGH, points out that the two main causes of flat feet in childhood are relaxed ligaments and tight heel cords. Limited activity may be the only sign of difficulty; pain does not always occur.

Relaxed ligaments are demonstrated by ability to hyperextend elbows, knees, and thumbs. This anomaly is not evident when the child is not bearing weight. However, when the child stands, the medial arch partly collapses and the foot pronates, throwing weight to the medial side of the foot. Pronation can be recognized by the lateral slope of the os calcis.

With a tight heel cord, the foot cannot dorsiflex as far in inversion as in eversion, the usual position in weightbearing. This condition is not always congenital but may arise after a rapid growth spurt in an older child.

Toeing-in is often caused by weak feet although internal torsion of the tibia also occurs. Lateral wedges to correct the toeing-in will only aggravate weak feet and increase symptoms. Medial wedges shift weightbearing to the correct position, although the toeing-in may be worse for a time. Support must be continuous over a long period until ligaments are tight in good weightbearing position, usually not before age seven. Children being treated for weak ligaments should never go barefooted.

Tight heel cords may be stretched by daily exercises and held in position by wedges and pads worn in the shoe. Longitudinal arch pads to prevent the foot from assuming an incorrect position in the shoe should be flexible and not made of metal.

Flat feet in childhood. Pennsylvania M. J. 57:330-332, 1954.

Management of Growth Failure

STUART SHELTON STEVENSON, M.D.
University of Pittsburgh

*One or several factors may be responsible for a child's small stature.**

MALNUTRITION due to infection or to faulty eating habits is the most frequent cause of retarded growth of children. Other factors, which may be interrelated, are inherited family traits, sex, race, maternal starvation during pregnancy, prematurity, congenital anomaly, endocrine or metabolic disorders, anemia, multiple trauma, poor hygiene, and malignant disease.

However, more than half the youngsters brought to the physician for apparent stunting actually have nothing wrong. A common reason for parental worry is natural slowing of early infantile rate.

Standard tables are available for weight, height, and other data. A rapidly growing baby should be measured monthly, an older child every six months.

Birth records are useful in retrospect, as a small infant tends to be small in later life. Head and chest have about equal circumference. The midpoint of length should be at umbilical level; upward displacement may suggest the short limbs of chondrodystrophy.

Natural height for a particular age differs considerably. A 5-year-old boy in the third percentile, or third from the short end in a graded line of 100 boys, is about 40.2 in. tall, while a boy in the ninety-seventh percentile is 47 in.

Onset of sexual change varies over several years, and a boy of 10 years who matures early will excel in growth the child of similar age destined for late adolescence.

Bone age, indicated by deposition of calcium and fusion of epiphyses, is shown by radiograms and tables of norms. Eruption of teeth is not reliable, since delay usually represents a harmless familial characteristic.

Serial records are important. Since build may be short and heavy or thin and wiry, the subject's dimensions need not fall into the same percentile. But if health is good, a single feature follows a trend. An anomaly should be suspected if height lapses, for example, from the ninety-seventh percentile at 2 years of age to the seventy-fifth at 3 years and sixtieth at 4 years.

Congenital anomalies may be first indicated by unsatisfactory growth. At least 6 areas should be examined for suspected lesions: the central nervous system, kidneys, heart, gastrointestinal tract, lungs, and liver.

Endocrine or congenital metabolic disorders will seldom interfere

*Growth failure. Pediat. Clin. North America, 1954, pp. 433-446.

with growth, yet hypothyroidism, diabetes mellitus, mucoviscidosis, pituitary deficiency, ovarian agenesis, cystine disease, renal rickets, oxaluria, galactosemia, and hepatic glycogen disease are all possible causes for retarded growth.

Physical malnutrition is surprisingly common among the well-to-do, since parents may create feeding problems or select food unwisely. If the child is irritable and tired, with bad posture, protruding abdomen, and flabby muscles, dietary habits should be explored.

Emotional malnutrition, though intangible, has well-known deleterious effects. Both orphanages and outwardly ideal homes contain lonely boys and girls who have anorexia or a more complex psychosomatic derangement.

Chronic or repeated infection is the most prevalent reason for malnutrition in American children. If tonsillitis or other minor respiratory attacks are not implicated, tuberculosis, syphilis, or urinary disease may be.

Anemia is often a source of fatigue and poor appetite. Because skin color is seldom a reliable index, hemoglobin must be determined. However, 10- or 11-gm. levels at the age of 3 to 6 months rarely warrant therapy.

Poor hygiene implies overcrowding, excitement, lack of sleep, bad sanitation, and substandard diet. Here the social worker may accomplish more than the physician, although bodily defects must be corrected.

Multiple trauma is discovered in undersized children too often to be ignored. Skin bruises and old or new fractures, perhaps inflicted by a careless mother or jealous brothers and sisters, may be seen. Fear and pain may do great harm.

Malignant lesions, although uncommon, should be sought during physical examination.

Diagnosis of growth failure may be obvious at the first visit or only after a number of trial measurements and tests. Percentile rankings should be found, sizes of parents, siblings, and other relatives noted, and the home environment surveyed.

Data are obtained on the mother's food and health in gestation and on delivery, prematurity, and twinning. Dietary, feeding, and bowel habits are recorded, also nature, frequency, and length of infections and other illness.

In addition to thorough physical examination, radiography of the heart, lungs, skeleton, alimentary system, and urinary tract may be advisable.

Complete blood count, urinalysis, and appropriate cultures are obtained. Tuberculin and serologic tests may be done, blood nonprotein nitrogen determined, and feces inspected. When indicated, duodenal juice is examined for viscosity and proteolytic power, blood electrolytes and protein-bound iodine are gauged, and subdural taps performed.

Treatment frequently requires teamwork of one or more specialists in nutrition, psychiatry, allergy, surgery, cardiology, urology, neurology, and social work. At times no remedy is available.

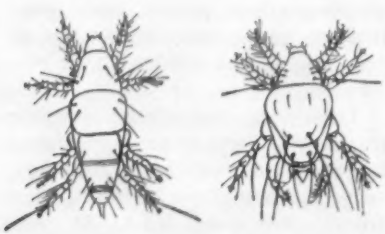
Grain Itch and Other Mite Dermatoses

BOYNTON H. BOOTH, M.D., AND ROLAND W. JONES, M.D.
Indianapolis General Hospital

*Impregnation of clothing with recently developed repellents gives effective protection against mites that cause grain itch.**

THE mite *Pediculoides ventricosus* is responsible for grain itch or acarodermatitis urticarioides, a common industrial dermatosis in some areas. A pruritic papulovesicular eruption appears within a few hours after exposure to material infested with the parasite.

Pediculoides ventricosus is a parasite of many insects, but chief hosts are the grain moth and the wheat jointworm. Therefore, farmers, potters, packers, and broom and strawboard factory workers handling wheat, barley, or straw are often infested. The same mite, which is apparently world-wide in distribution, is believed to cause dermatitis among linseed workers and may invade entomologic laboratories.



Treatment is directed toward relief of the itching. Antibiotics may be necessary if secondary infections arise from scratching.

Clothing saturated with an insect repellent may give almost complete protection from the mite bites. Two mixtures that have proved effective when diluted with water are M-1960 and M-2059. M-1960 contains equal parts of *n*-butyl-acetanilid, 2-butyl-2-ethyl-1,3-propanediol, and benzyl benzoate, with 10% of an emulsifying agent. M-2059 has 1% lindane in addition.

These mixtures are easier to apply, have a lower index of sensitivity, and are as effective as sulfur compounds previously tried for the purpose. In a trial with straw infested by *Pediculoides ventricosus,* grain itch was prevented with either repellent without sensitizing the workers.

During a period of infestation, other animal bedding, such as hay, wood shavings, or ground corncobs, should be substituted for straw at fairs and exhibits where crowds of people may be exposed.

Among other mite-caused occupational dermatoses is rat mite dermatitis, a factor in the spread of endemic typhus. This disease appears infrequently among employees of groceries, markets, and restaurants.

*Mites in industry. Arch. Dermat. & Syph. 69:531-542, 1954.

Fowl mite dermatitis is relatively simple to control. The appearance of this condition is an important clue to an epidemic of encephalomyelitis because 2 of the mites involved are vectors of eastern and western equine encephalomyelitis virus.

Tyroglyphid mites are responsible for cheese mite dermatitis and copra and baker's itch. Other mite lesions include fig, onion, and wheat pollards dermatoses, as well as the grocer's, water, and barley itches.

Cutaneous manifestations are similar—erythema, papulovesicles, pustules, excoriation, eczematization, and occasionally pyoderma over a wide area.

Chiggers, the trombiculid mites that are particularly troublesome to farmers, harvesters, hunters, berry pickers, and soldiers, may act as vectors for scrub typhus. Usually only one generation of chiggers appears yearly. The larval form is responsible for the lesions in human beings. Larval activity varies with the climate, lasting from two summer months in upper Minnesota and Michigan to the entire year in southern United States.

Sarcoptid mites cause scabies. Animal scabies is a self-limited disease in man.

Isoniazid for Tuberculosis Cutis

MORRIS LEIDER, M.D., AND HERMAN H. SAWICKY, M.D., NEW YORK UNIVERSITY, NEW YORK CITY, find that isoniazid (Rimifon) is effective treatment for infections of *Mycobacterium tuberculosis*, especially when the lesions contain living organisms in relative abundance.

Isoniazid was administered to 33 patients with dermatologic conditions, usually in doses of from 150 to 250 mg. (2 to 4 mg. per kilogram) daily for one to about seven months. The lesions were of six months to fifty years duration and most had been previously treated with calciferol, topical remedies, arsenicals, ultraviolet radiation, or, in some instances, dihydrostreptomycin and PAS.

Of 20 patients with tuberculosis of the skin, all of the lesions of erythema induratum and scrofuloderma cleared or improved and 75% of the patients with lupus vulgaris showed good or excellent results after isoniazid therapy. In addition, 3 cases of leprosy were also treated with Rimifon with good response, but in 2 cases smears showed acid-fast rods. Results were poor in the remaining 10 cases, including discoid lupus erythematosus, sarcoidosis, mycosis fungoides, lymphocytoma, and tuberculid of the face; however, the number of cases is too small to make conclusions. Toxic reactions were few and rarely necessitated interruption of treatment.

Therapeutic assays of the skin and cancer unit of the New York University Hospital. J. Invest. Dermat. 21:49-57, 1953.

Intussusception Ureterectomy

DONALD F. MC DONALD, M.D.
University of Washington, Seattle

*The ureteral stump can be removed after nephrectomy without an additional incision.**

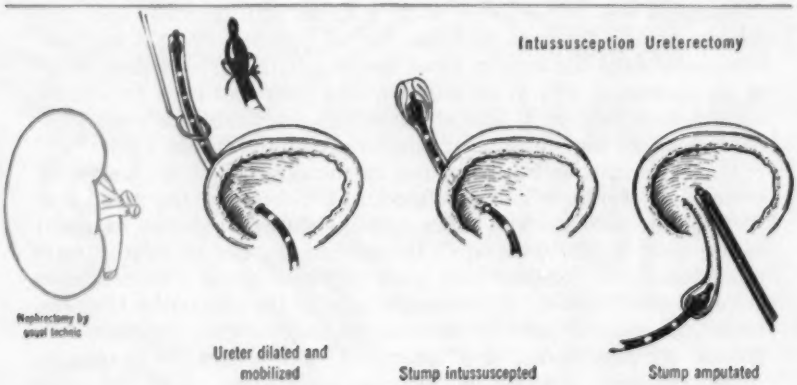
WHEN infection, dilatation, or stricture is found in the lower ureter at the time of nephrectomy or when operation is done for papillary carcinoma of the renal pelvis, ureterectomy should also be performed.

A ureteral bulb-tipped catheter is passed, preferably preoperatively. After nephrectomy, the intubated ureteral stump is dilated to admit a No. 16 French catheter. The cut end of the ureter is sutured to the ureteral catheter, the suture being placed just below the bulb of the catheter.

A blunt Mayo vein stripper is passed down the outside of the ureter to the ureterovesical junction to mobilize the ureter from the retroperitoneal attachments. The portion of the ureteral catheter protruding from the urinary meatus can then be grasped, and the ureter may be gently intussuscepted into the urinary bladder by traction.

After the nephrectomy incision is closed, the patient is placed in position for cystoscopy. Traction is applied to the ureter and the redundant organ is amputated with 1 stroke of the resectoscope loop.

Since the intramural ureter is completely removed, the bladder wall is not resected. Bleeding is controlled by coagulating current.



*Intussusception ureterectomy: a method of removal of the ureteral stump at time of nephrectomy without an additional incision. Surg., Gynec. & Obst. 97:565-568, 1953.

Transventricular Brain Injuries

MAJ. GORDON T. WANNAMAKER, M.C., U.S.A.
Tokyo Army Hospital

*Early definitive surgery, promptly available cultures and sensitivity tests, and antibiotics are important to successful therapy of war wounds of the cerebral ventricle.**

WHEN patients with transventricular brain injuries incurred in Korea were evacuated to Tokyo for definitive surgery, over half had an infection on admission and one-quarter died. The average time lag from injury to surgery was about forty-four hours.

After establishment of a neurosurgical team in Korea, the time lag was cut almost in half, only 15% of the patients were infected on arrival in Tokyo, and the mortality rate was 4.11%. Practically all infections were caused by organisms resistant to penicillin and streptomycin, and the administration of aureomycin, Terramycin, or Chloromycetin was probably lifesaving in many instances.

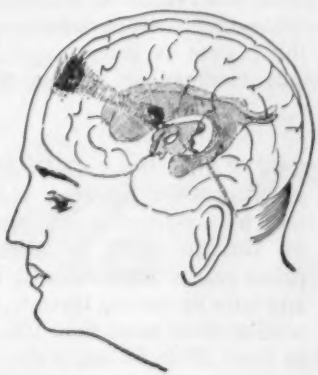
Patients with transventricular wounds produced by missiles or foreign bodies may have high temperatures and stiff necks, but no syndrome is typical. The brain area injured governs the physical findings. The lateral ventricles are most frequently penetrated.

Preoperative stereoscopic roentgenograms aid in the diagnosis but are rarely of practical value in field work.

After debriding the scalp, muscles, and pericranium, a craniectomy of at least 4 to 5 cm. in diameter is performed. All clots, bone fragments, dirt, hair, cloth, and other foreign bodies are removed. An occasional subdural clot is found.

Cortical hemostasis is obtained mainly with silver clips, since cautery may cause thrombosis and necrosis.

Any devitalized cerebral tissue, especially the softened walls of the missile canal, is sucked out. The canal is inspected and gently palpated for foreign bodies. The missile is extracted, if vital brain areas will not be injured. Copious irrigation is then done.



*Transventricular wounds of the brain. J. Neurosurg. 11:151-160, 1954.

Walls of the missile tract remain well separated after radical debridement unless active cerebritis and edema have occurred.

Torn choroid plexus is cauterized or removed. Gelfoam may be used as a hemostatic agent but should not be utilized to seal off the ventricular tear since a piece of the material may break loose and block the foramen of Monro or the cerebral aqueduct.

The wounds are usually closed tightly, but are left wide open and irrigated repeatedly if active cerebritis occurs.

If primary dural closure of a transventricular wound is impossible, the defect may be bridged with fascia lata, temporal fascia, pericranium, or occipital fascia. Closure with Gelfoam is frequently attended by complications.

Primary scalp closure is important, especially if grafting of the dura has been performed. A scalp flap rotated from an area of intact bone may be necessary to achieve closure without tension.

Close observation is essential in the immediate postoperative period. If the patient is comatose, intravenous feedings are administered for a day or two, then nasogastric tube feedings are given.

The causative organisms and appropriate drugs should be determined within twenty-four to thirty-six hours by cultures and sensitivity tests. Antibiotics are administered for ten days postoperatively when infection is not obvious, and for at least three weeks when infection is noted.

Head dressings are changed four to six hours postoperatively, using sterile technic, and then once or twice a day. Any subgaleal fluid should be aspirated.

Repeated spinal taps are done to control cerebral herniation in open wounds. After the cerebritis subsides, closure is done in the operating room. The need for spinal taps after primary closure or grafting can be determined by palpating the skin flap over the craniectomy defect. Spinal fluid is generally overproduced for several days after surgery.

Superficial sutures are removed within two days. The patient is allowed to sit up on the fourth postoperative day, and skull films are made. Further surgery is necessary for any residual bone fragments.

¶ INTRAOCULAR INFLAMMATION and allergic reactions, especially of the posterior segment, may be treated more effectively with hydrocortisone than with cortisone. The method used by Dan M. Gordon, M.D., of Cornell University, New York City, comprises oral or intramuscular medication followed by subconjunctival and later by topical therapy. The initial systemic dose of hydrocortisone is never more than 100 mg., and the amount is rapidly reduced to from 25 to 50 mg. a day. Side effects occur infrequently with a maintenance dosage of 60 mg. daily in chronic cases.

Am. J. Ophth. 37:533-538, 1954.

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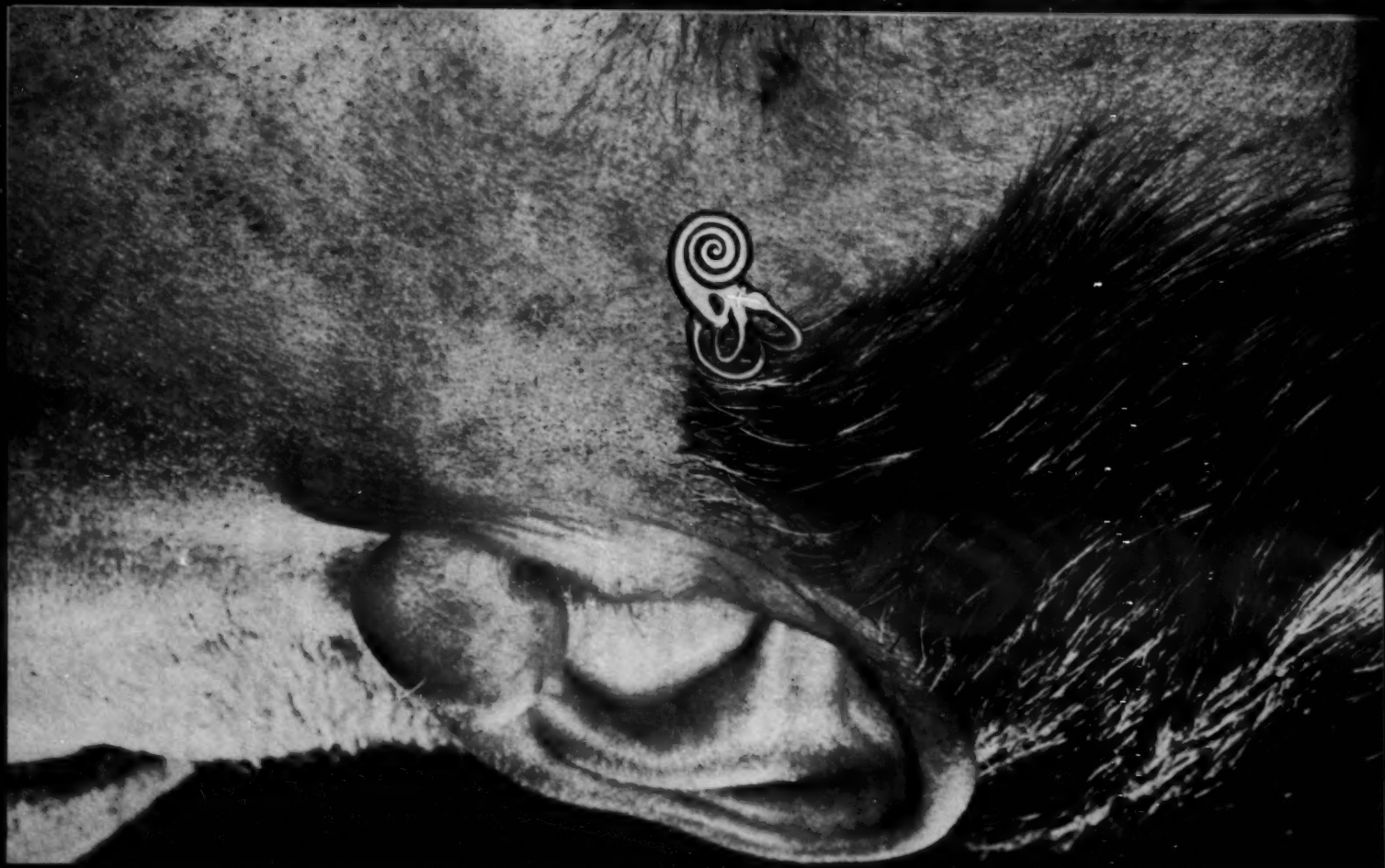

Medical Forum

Discussion of articles published in MODERN MEDICINE *is always welcome. Address all communications to The Editors of* MODERN MEDICINE, *84 South 10th St., Minneapolis 3, Minn.*

Failure in Cataract Operations*

QUESTION: What is the most common cause for failure of cataract operation?

Comment invited from

A. C. HILDING, M.D.
CHARLES BOYD, M.D.
E. G. GILL, M.D.
DAVID O. HARRINGTON, M.D.
JOSEPH W. TAYLOR, JR., M.D.
C. DWIGHT TOWNES, M.D.

► TO THE EDITORS: The causes of vision of 20/200 or less after cataract operation in a series of 500 cases now under study are quite different than those listed by Dr. Daniel B. Kirby. In this series, preexisting retinal pathology leads as a cause of poor vision. Next follow glaucoma, principally preexisting, and iridocyclitis. These three conditions account for almost 75% of cases in this category. The other 25% are scattered among congenital defects, albinism, arterial hypertension with vitreous hemorrhage, retinal detachment, bone and joint disease with associated ocular degeneration, postoperative psychosis with damage to the eye, and operative complications. The last are rarely severe enough to reduce the vision to 20/200 although operative complications with minor effects or no effect at all upon visual result are not uncommon.

One cannot assume that vision of 20/200 always represents a failure. The albino in this series had both eyes operated upon and attained 20/200 vision after having been practically blind. She was most happy over the result, doubtless because she had never had better vision than that, even in youth. A patient with chronic glaucoma, whose vision had been exceedingly low, was quite content when he attained 20/200. On the other hand, when an eye with a preoperative vision of 20/70 attains to no better visual acuity after operation, this must be reckoned as a failure.

The proportion of failures due to retinal pathology would depend upon the surgeon's attitude toward operating in less favorable cases. Useful vision can be attained through cataract extraction in a proportion of the cases with a dense cataract in the presence of diabetes, hypertension with retinal change, arteriosclerotic retinitis, or mild glaucoma. Without operation, the patients would surely remain blind. If the surgeon is willing to take a chance on the macula having been spared, some of these patients will be markedly benefited, but the

*MODERN MEDICINE, Apr. 15, 1954, p. 91.

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surgeon's statistics will not be quite as good as if all of these less favorable cases had been eliminated.

About operative technic, I would make only one remark. The more simple the operative procedure can be kept and still be effective, the less chance there is of operative complications.

A. C. HILDING, M.D.
Duluth

► TO THE EDITORS: The most common cause of failure in cataract operations is the poor attention that is paid to details. These include the office examination, general physical examination, surgical procedures, and postoperative follow-up, any one or a combination of which can obviate the meticulous care lavished on the patient.

Cataracts can largely be divided from a chronologic viewpoint into congenital, young senile, and senile. The procedure for managing each case is different, but the details for the selected procedures are a constant factor.

Failure with the very early congenital cataract is due to an inherent pathology posterior to the lens.

Young senile cataracts have very weak lens capsules and strong zonules and are very prone to rupture on attempted intercapsular extraction with quantities of soft, sticky lens matter remaining in the anterior chamber; hence all the complications that are associated with this operation.

The most common cause of failure with senile cataracts is pathology in the macular area; however, if the following details are not watched, secondary complications will follow and troubles will multiply:

1] Absolute sedation of the patient preoperatively

2] Perfect akinesia

3] Preplacement of the corneoscleral sutures to give watertight closure of the section

4] Complete replacement of the iris in its original plane followed by restoration of the anterior chamber by either air or saline solution immediately.

CHARLES BOYD, M.D.
Jacksonville, Fla.

► TO THE EDITORS: In my own clinic, the most common causes for the failure of cataract operation may be listed as: [1] incorrect diagnosis; [2] incomplete control of the patient at the time of operation; and [3] failure of the surgeon to possess self-control. The surgeon should be calm at all times, mentally and physically relaxed, and should be complete master of the situation regardless of what complication may develop during the operation.

Postoperatively, some of the failures may be caused by iritis, iridocyclitis following retained cortical material, postoperative hemorrhage into the vitreous, loss of vitreous at the time of the operation, or secondary glaucoma.

While it is important to look for foci of infection before operation, I think the greatest single factor in cataract extraction is proper surgical technic. Since the advent of sutures, the complete closure of

the wound with corneal scleral sutures is most important. Whether a round-pupil operation or iridectomy should be done depends upon the individual case. The surgeon should always realize that the patient never undergoes an operation to improve his appearance or to give the surgeon a thrill. He undergoes the operation for one purpose and that is to secure vision. If iridectomy is indicated, it should be done. I feel that the average surgeon has fewer complications with iridectomy than with round-pupil surgery.

There is very little reason now to lose an eye to infection if proper technic is carried out and antibiotics are used.

E. G. GILL, M.D.
Roanoke, Va.

► TO THE EDITORS: If one considers the success of cataract operation in terms of restoration of visual acuity, the most common cause of failure is degenerative change in the retina, optic nerve, and retinal vascular system. These conditions have relatively little to do with the actual cataract extraction. They are the result of changes in the age group in which cataract is most common and are, usually, unavoidable and not associated with surgery.

In some cases these conditions can be discovered preoperatively and visual loss from them anticipated, so that a visual acuity postoperatively of 20/70 to 20/100 is not a disappointing result. In other cases where the cataract is mature, one may possibly suspect a coincidental macular degeneration, but there is no possible way of being certain that it is present until after the lens has been extracted and visual acuity can be tested and the fundus properly examined.

The commonest type of retinal degeneration is probably the so-called senile macular degeneration, or diskiform degeneration of the macula, which gives rise to a central scotoma in the visual field and very frequently considerable loss in central visual acuity. Insofar as the peripheral field of vision is quite good in these cases the patient may be very much better off than before the operation and able to get about by himself without any difficulty; in this respect the operation is certainly not a failure.

Such disturbances in the posterior segment of the globe which give rise to visual disability are not directly associated with cataract extraction, though they are, in my opinion, the frequent cause of disappointing visual results after cataract extraction.

It is difficult to single out one cause of failure in cataract extraction; it is likely that each surgeon will have his own bête noire.

DAVID O. HARRINGTON, M.D.
San Francisco

► TO THE EDITORS: Postoperative uveitis in varying degrees of severity and from various causes is, in my opinion, the most common cause of failure in cataract surgery.

Foci of infection still account for a large percentage of cases of

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postoperative uveitis. This is true despite [1] adequate preoperative examination to rule out sites of chronic infection and [2] the help afforded by the different antibiotics. Any obvious focus of infection can and should be brought under control preoperatively. The usual prophylactic doses of antibiotics given pre- and postoperatively prevent most wound infections but do little to eliminate the possible ill effects from a site of infection.

Another prominent factor in producing postoperative uveitis is the presence of capsule remains. The danger of a subsequent uveitis can be reduced considerably by the careful removal of as much capsule as possible and the irrigation of cortical material.

Troublesome uveitis can also occur after an intracapsular extraction. This can often be traced to undue trauma to the iris during the procedure or to disturbances of the vitreous; the latter are usually a result of vitreous loss.

The irritation caused by iris prolapse or incarceration frequently precipitates severe uveitis. A prolapse of any extent should be repaired as soon as detected, while incarcerations are best handled by conservative measures.

The degree of postoperative uveitis encountered is variable. It can be either a severe fulminating type or a low-grade smoldering involvement with gradual formation of a pupillary membrane and progressive increase in vitreous opacities.

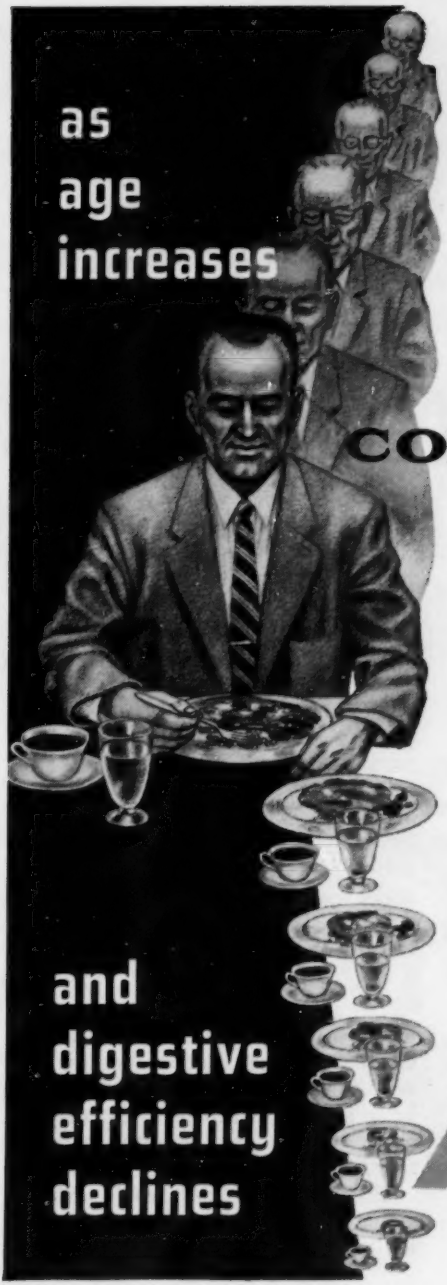
Much help in controlling postoperative uveitis is afforded by general use of the mydriatics and more selective use of cortisone products. Such cases of uveitis, however, remain an ever present problem in cataract surgery and account, I believe, for the highest percentage of the failures in cataract operations.

JOSEPH W. TAYLOR, JR., M.D.
Tampa

► TO THE EDITORS: Analysis of visual results in a series of 565 intracapsular cataract operations reveals that 28 eyes were totally blind and 19 others had vision of 20/200 or less. Of these, 35 lost vision as a direct result of complications of cataract surgery, while 12 had other disease which contributed to the loss of vision.

These failures to restore useful vision were due to:

Vitreous loss and separated retina	5
Uveitis and separated retina	2
Separated retina	3
Vitreous loss and uveitis	2
Vitreous loss, hemorrhage, keratitis	1
Vitreous loss, uveitis, glaucoma	1
Delayed re-formation of anterior chamber, prolapsed iris, uveitis, glaucoma, sympathetic ophthalmia	1
Delayed re-formation of anterior chamber, uveitis, keratitis	1
Delayed re-formation of anterior chamber, glaucoma	1
Hemorrhage, keratitis, vitreous contact	1
Hemorrhage, uveitis, prolapsed iris, glaucoma	1
Ruptured capsule, hemorrhage, discission	1
Ruptured capsule, uveitis, glaucoma	1
Ruptured capsule, uveitis, discission, optic neuritis	1
Uveitis, glaucoma	3
Uveitis, keratitis	1
Ruptured capsule, uveitis	1
Uveitis, glaucoma, sympathetic ophthalmia	2



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References: 1. Lee, R. I.: Chicago M. Soc. Bull.: 48:503, 1946. 2. Golob, M.: Am. J. Digest. Dis. 18:302, 1951. 3. McLester, J. S., and Darby, W. J.: Nutrition and Diet in Health and Disease, ed. 6, Philadelphia, W. B. Saunders Company, 1952, pp. 416, 476.

Uveitis, epithelization of anterior chamber	1
Glaucoma, keratitis, vitreous contact	1
Delayed re-formation of anterior chamber, glaucoma, vitreous contact	1
Optic neuritis	1
Choroidal hemorrhage	2
Uveitis	7
Glaucoma	5

From this table it is noted that the failures occurred usually because the eyes suffered multiple complications.

In our experience occurrence of the following conditions with other complications is:

Vitreous loss	50%
Delayed re-formation of anterior chamber	60%
Hemorrhage	60%
Uveitis	85%
Prolapsed iris	80%
Glaucoma	75%

C. DWIGHT TOWNES, M.D.
Louisville

Chemotherapy for Infantile Diarrhea*

QUESTION: What is the best chemical or antibiotic therapy for infantile diarrhea?

Comment invited from
DANIEL C. DARROW, M.D.
PHILIP L. CALCAGNO, M.D.
ERWIN NETER, M.D.

► TO THE EDITORS: To the student of disease processes, therapeutic progress never is satisfactory without understanding. Yet the practitioner has to act, and often without understanding. The study by the Medical Research Council of Great Britain of the therapeutic results following use of aureomycin, chloramphenicol, and sulfadiazine in nonspecific diarrhea of infants is an attempt to provide a guide for therapy without understanding.

The specific infectious cases were excluded. No bacteriological evidence of the effectiveness of the therapy is available since a bacterial cause is not recognized. The results probably can be accepted as stated but tell us little or nothing regarding a true therapeutic effect on diarrhea itself. Such an advance demands recognition of an infectious agent which is affected by the antibacterial agent.

My chief concern with such studies is that the antibacterial agents may be accepted as having beneficial effects which permit neglect of other therapeutic measures. There was no neglect of fluid therapy in these patients. Proper fluid therapy inevitably is the most important factor in treatment for severe diarrhea because the physiologic disturbance produced by the loss of water and electrolytes is known to account for the disturbances leading to death.

DANIEL C. DARROW, M.D.
New Haven, Conn.

► TO THE EDITORS: The question concerning what type of therapy is best for infantile diarrhea cannot be answered in a categorical manner. Reasons for this attitude are several.

First, infantile diarrhea is not a single clinical entity nor is the etiologic agent the same in each case

*MODERN MEDICINE, Apr. 15, 1954, p. 117.

or outbreak. It is well known that enteritis can be caused by dysentery bacilli, Salmonella, viral agents, *Escherichia coli,* and other intestinal pathogens. Also, in this age group, diarrhea may be a symptom of parenteral infection. It should be stressed that the common causes of infantile diarrhea vary with the geographic location. Thus, infantile diarrhea must be defined in terms of diet and parenteral or enteric infection.

I presume the meaning in this usage to be a chemical acting against an infecting agent. I should prefer then to choose the chemical or antibiotic which would best combine attributes such as activity against the infecting agent, availability, and ease of administration, with consideration also of cost and possible toxicity. All these factors may vary, depending upon the nature of the diarrhea.

Certainly it goes without saying that other supporting measures may contribute a major part to therapy.

With these considerations I prefer not to choose one antibiotic from all other antibiotics but rather to use specific drugs against the particular organisms.

PHILIP L. CALCAGNO, M.D.
Buffalo

► TO THE EDITORS: Infantile diarrhea is not a monoetiologic disease. It may be due to a variety of conditions and factors, including microbial agents. Among the microorganisms are members of the *Salmonella* (paratyphoid) group, various dysentery bacilli, *Pseudomonas aeruginosa (B. pyocyaneus),* and, according to more recent information, certain serogroups of *Escherichia coli.* Furthermore, Light and Hodes have presented evidence indicating that a virus may be incriminated in this condition.

There is no specific therapy available at this time against the viral type of infantile diarrhea, nor is there a single chemotherapeutic agent which is highly effective against *all* bacteria associated with infectious diarrhea of infants. Reliable comparative data on the value of sulfonamides and various antibiotics in *E. coli* diarrhea of infants are not available. However, both in vitro studies and clinical observations indicate that sulfadiazine, the tetracyclines, chloramphenicol, and neomycin are efficacious in this condition.

Since streptomycin-resistant bacteria readily emerge following use of this antibiotic, streptomycin appears to be of limited usefulness. In one particular outbreak, neomycin was found to be superior to chloramphenicol. Antibiotics may be used also to terminate an outbreak of infantile diarrhea in institutions; it is important to keep in mind that adult carriers should be treated likewise. Whether sulfonamides or antibiotics should be used depends upon the clinical condition of the patient.

Furthermore, therapy with chemotherapeutic and antibiotic agents must not replace symptomatic therapy aimed at maintaining physiologic balance of the patient.

ERWIN NETER, M.D.
Buffalo

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1. Tebrock, H. E.: M. Times 79:760, 1951.

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Case MM-268

THE CLUE

ATTENDING M.D: A 40-year-old-woman in this ward has had a febrile illness for two years. Numerous attempts have failed to reveal the cause. The main symptoms are weakness, night sweats, daily temperature of 100 to 101°, and loss of 50 lb. in weight. The condition is progressive and she has been in the hospital for the past four months. A diagnosis of Hodgkin's disease was made at one time but this was not verified by any histologic examination. Later, subacute bacterial endocarditis was considered, but only one blood culture was positive and we found no other confirmatory evidence of endocarditis.

VISITING M.D: Any patient ill this long and who has had so much medical attention either has a rare disease or a relatively common disease with usual criteria obscured. I think it would be better for us to disregard diseases that are rare or exotic and stick to common disorders that may be disguised by a febrile course. I wonder if fever was an initial symptom. How did the disorder begin?

ATTENDING M.D: Malaise, general weakness. Fever was not a noticeable sign until the patient had been ill about four months. At no time were there any clear physical symptoms other than those I've mentioned. Our staff does not believe she has Hodgkin's disease or subacute bacterial endocarditis; indeed, the results of physical examination are entirely negative except that the woman is obviously sick and cachectic. She has had numerous agglutination tests—one was positive for *Brucella*—and has been treated with sulfadiazine and penicillin without effect. All subsequent agglutinations were negative. She has never been outside the United States and has not been exposed to any contagious diseases as far as we can ascertain from the history.

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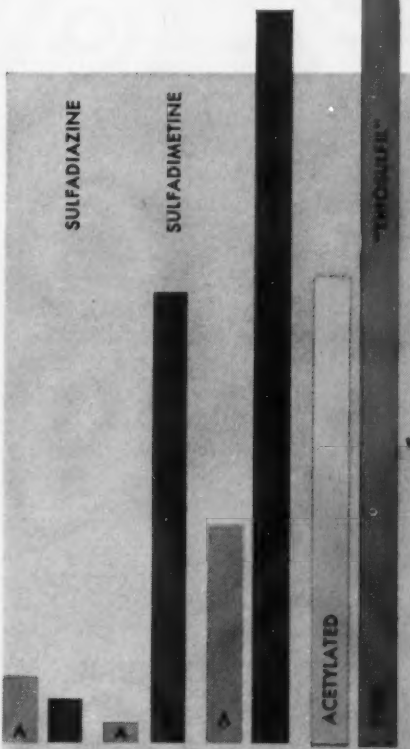

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PART II

VISITING M.D: *(Examining patient)* Complete physical and neurologic examinations are normal. Heart sounds are not remarkable, and the eye grounds reveal nothing unusual. Blood pressure 160/70 and temperature 101.4°. What do roentgenograms show?

ATTENDING M.D: Chest roentgenogram, barium enema, stomach and gallbladder films, and kymograms were all normal.

VISITING M.D: No doubt she has anemia. Conjunctivae are pale.

ATTENDING M.D: Yes, she has had persistent anemia for most of the illness. The hemoglobin was 8.6 gm.; leukocytes, 8,900 per cubic millimeter of blood. Increased rouleaux formation, monocytosis, and many immature reticular cells in the blood smear have been noted, but no leukemia.

VISITING M.D: Sedimentation rate?

ATTENDING M.D: That was 126 mm. in one hour; 6 blood cultures were negative.

VISITING M.D: Was a culture made for acid-fast bacilli?

ATTENDING M.D: Yes—negative.

PART III

VISITING M.D: Did you do a spinal fluid examination?

ATTENDING M.D: Yes, also negative.

VISITING M.D: What did the kidney, ureter, and bladder film show?

ATTENDING M.D: Negative.

VISITING M.D: The question is, of course, whether the condition is inflammatory or neoplastic in origin. Possibility of tuberculosis as a chronic sepsis is improbable. Cholecystitis and chronic inflammatory pelvic disorder seem to be eliminated. What does the urine show?

ATTENDING M.D: Specific gravity, normal. Many polymorphonuclei occasionally appeared on smears and *Micrococcus* grew on culture.

VISITING M.D: How about roentgenograms of the teeth?

ATTENDING M.D: Negative.

VISITING M.D: Blood smears for malaria?

ATTENDING M.D: Negative.

VISITING M.D: Without any real clue as yet, I think we had better investigate the occasional red cells in the urine further. The kidney-ureter-bladder roentgenogram is not sufficient to eliminate renal disease. As many as 8% of patients with renal neoplasms have fever by the time of surgery. Unfortunately, hematuria, the common warning symptom of hypernephroma, may not appear until late in the process, even after metastases. A palpable tumor or pain in the renal area may not occur until late.

ATTENDING M.D: I thought that tumors of the kidney caused symptoms by local pressure or metastasis. Why do they cause fever?

VISITING M.D: It has been suggested that the difference in metabolism between normal and neoplastic cells may cause the change in body economy that produces the variation in temperature.

ATTENDING M.D: How can the difference in metabolism of neoplastic cells change the—what did you call it—body economy?

(Continued on page 132)

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*Choy, D.S.J. Clinical trials of a new plastic dressing for burns and surgical wounds. A.M.A. Arch. Surg. 68:33-43 (Jan.) 1954.

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cular damage, Reserpoid is valuable in augmenting and stabilizing the effects of other, more drastic drugs—making their smaller dosage possible. Reserpoid therapy is not encumbered by the difficulties of delicate titration. Just 1 mg. of Reserpoid daily, taken in

VISITING M.D: It does sound ridiculous; so, too, does the idea of foreign proteins elaborated by the growth of the tumor causing an anaphylactic elevation of temperature. No doubt the latter situation occurs, but it could hardly account for the continual hyperpyrexia in this case.

ATTENDING M.D: There is nothing ignoble in admitting fever of unexplained etiology.

VISITING M.D: Let's settle for the excretory urogram. If it is at all abnormal I would suggest an exploratory kidney operation.

PART IV

SURGEON: *(In surgery)* We have removed the kidney. A tumor has invaded the capsule and perirenal fat but not the renal vein. The frozen section shows adenocarcinoma.

VISITING M.D: One must consider tumors of the kidney in cases of obscure fever. The lack of hematuria or of pain in the loin should in no way deter one from making intravenous or retrograde pyelograms. A small number of malignant tumors—carcinoma or sarcoma—rising in the medullary portion of the kidney metastasize early. The more common cortical tumor, the hypernephroma, was once supposed to arise in small aberrant areas of adrenal tissue. However, this, too, seems to originate in renal elements.

R is for Reserpine now combined with VERALBA* for simpler, safer, two-way hypertension therapy

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In the treatment of mild, moderate, or malignant hypertension, combination of the protoveratrines with reserpine in VERALBA—R offers five outstanding clinical advantages:

1) Maintains normal or near-normal blood pressure indefinitely;
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3) Tranquilizes the emotional patient;
4) Avoids unpredictable responses by the use of pure, crystalline alkaloids which are completely standardized by chemical assay;
5) Permits dosage schedule to be established easily, with continued and uniform responses to be expected thereafter.

SUPPLIED: Each VERALBA—R tablet contains 0.4 mg. of protoveratrine and 0.08 mg. of reserpine. *In bottles of 100 scored, uncoated pink tablets.*

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BASIC SCIENCE *Briefs*

Oncology

Lymphatics in Cancer Spread

Malignant tumors may have no lymphatic supply. V_2 carcinomas transplanted into the afferent lymphatics of pelvic lymph nodes in rabbits were examined after injection of tracer substances by the same afferent route two to nine weeks later, report Dr. Irving Zeidman of the University of Pennsylvania, Philadelphia, and associates. The tracer substances, radiogold or soluble Berlin blue, were not demonstrable in tumors confined to or extending beyond the lymph nodes but were found in normal lymphatic tissue.

Proc. Am. A. Cancer Research 1:54, 1954.

Nutrition

Starvation in Atherogenesis

Undernourishment and failure to gain weight do not inhibit development or promote regression of cholesterol-induced atherosclerosis in rabbits. When fed equal amounts of cholesterol, young or fully mature animals subjected to severe caloric restriction and comparable adequately fed animals showed no differences in degree of aortic atherosclerosis, report Dr. Gardner C. McMillan and associates of McGill University, Montreal. Fully developed aortic atherosclerotic lesions induced in rabbits did not regress when the animals were fed caloric-ally restricted diets. Undernutrition promoted a significantly high increase in cholesteremia in the rabbits fed cholesterol. However, the severity of atherosclerosis expected from the high cholesterol and lipid content of the blood of cholesterol-fed undernourished rabbits failed to develop.

J. Exper. Med. 99:261-274, 1954.

Hepatology

Protective Factor in Liver

Growth retardation and thyroid hyperplasia are prevented in thiouracil-treated rats fed supplemental amounts of desiccated whole liver. Dr. Benjamin H. Ershoff of the University of Southern California, Los Angeles, reports that the amount of protective factor varies considerably in different commercial preparations, since only 3 of the 7 samples used had significant growth-promoting activity and only 1 prevented thyroid hypertrophy. When present, the protective agent is retained in the water-insoluble residue of liver. High contents of iodine and a thyroactive material exist in all effective liver preparations and may be responsible for the inhibition of thiouracil.

J. Nutrition 52:437-455, 1954.

WHAT'S THE **BIG IDEA** AT VIM?

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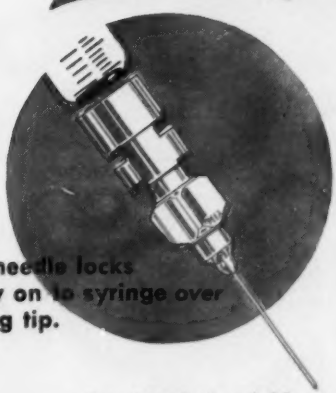

Injecting needle locks smoothly on to syringe over aspirating tip.

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Radiology

Detection of Radiation

Values of radioactivity in the human body vary considerably, depending upon the different methods employed in radiation determinations. The emanation method measures only the amount of radium in tissues and therefore gives the lowest values, since nonemanating radioactive substances and short-lived emanations are not detected. Measurements with particle-counting devices or apparatus sensitive to alpha and gamma radiation give the most accurate indication of the internal irradiation burden of the body, reports Dr. A. T. Krebs of the Army Medical Research Laboratory, Fort Knox, Ky. The particle-counting and particle-ionizing methods record all the main radioactive elements, including uranium, thorium, and actinium, in addition to detecting the radium element. Radium content of man appears to be within the permissible range of 1×10^{-7} gm. The amounts of radioactive substances deposited in the human body approximate the accepted tolerance values.

Science 119:429-431, 1954.

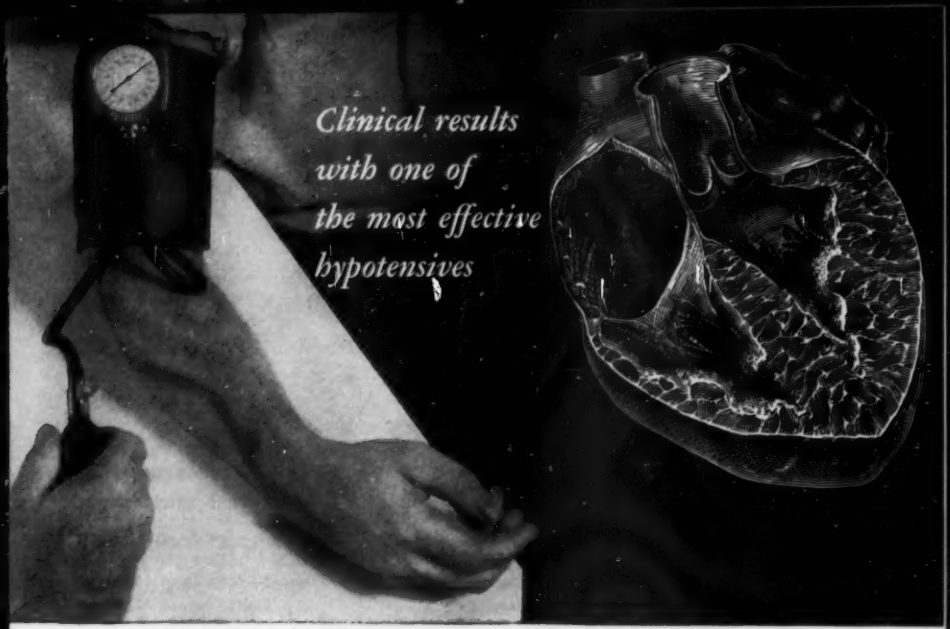
Hormones

Thyroid Gland Depression

Antithyroidal activity without goiter growth in rats is instituted by administration of small amounts of 5-iodo-2-thiouracil. Incorporation of 0.16 or 0.2% of the agent in the diet failed to inhibit thyroid synthesis completely but did result in cytologic, respiratory, chemical, and growth alterations indicative of partial hormonal suppression. However, administration of 1% of the agent produced goitrogenic effects and complete blockage of hormone synthesis comparable to the action of propylthiouracil or thiouracil, report Drs. R. C. Goldberg and J. Wolff of Harvard University, Boston. The effects of nongoitrogenic doses may be partially duplicated by simultaneous administration of small amounts of thiouracil and iodide ion, suggesting that breakdown products of 5-iodo-2-thiouracil are responsible for the weak antithyroid activity. Ingestion of the nontoxic antithyroid dose increases the total iodine content of the gland, whereas the greater goitrogenic amount results in iodine reduction comparable to the effects of propylthiouracil or thiouracil.

Endocrinology 54:181-195, 1954.

"This policy protects the holder only if stricken with pneumonia while singing in the bathtub at 2 A. M."



Improvement in 67 to 72% of patients with hypertensive heart disease[1]

Together with significant reductions of elevated blood pressure in 80 per cent of outpatient hypertensives,[2] Methium therapy may result in substantial improvement in cardiac symptoms and signs.[1,2,3] Precordial pain, ventricular strain, heart failure and hypertrophy may all respond to careful treatment.[1,2,3] Actual myocardial damage, however, seldom shows any improvement (only 8 out of 44 in one study[1]).

With continued management, up to or beyond a year, blood pressure may be reduced and stabilized, and cardinal symptoms arrested or reversed, without any increase in dosage.[1]

As blood pressure is reduced, and even without reduction, hypertension symptoms have regressed. Retinopathy may disappear; headache, cardiac failure and kidney function may improve.

Methium, a potent autonomic ganglionic blocking agent, reduces blood pressure by interrupting nerve impulses responsible for vasoconstriction. Because of its potency, careful use is required. Pretreatment patient-evaluation should be thorough. Special care is needed in impaired renal function, coronary disease and existing or threatened cerebral vascular accidents.

Bibliography:

1. Moyer, J. H.; Miller, S. I., and Ford, R. C.: J.A.M.A. *152*:1121 (July 18) 1953.
2. Moyer, J. H.; Snyder, H. B.; Johnson, I.; Mills, L. C., and Miller, S. I.: Am. J. M. Sc. *225*:379 (April) 1953.
3. Kuhn, P. H.: Angiology *4*:195 (June) 1953.

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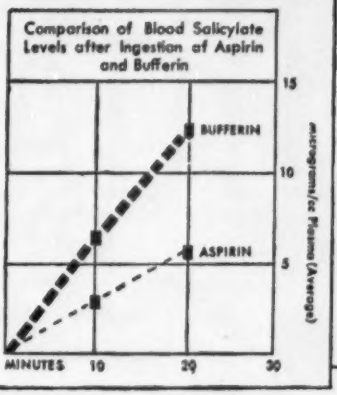
The antacids in Bufferin speed its pain-relieving ingredients through the stomach and into the blood stream. Actual chemical determinations show that within ten minutes after Bufferin is ingested blood salicylate levels are higher than those attained by aspirin in twice this time.[1]



2 DOES NOT UPSET THE STOMACH

Bufferin's antacid ingredients protect the stomach against aspirin irritation. This has been clinically demonstrated on hundreds of patients.

In usual doses

In a series of 238 cases, 22 had a history of gastric distress due to aspirin but only one reported any distress after taking 2 Bufferin tablets (equivalent to 10 grains of aspirin).[1]

In large doses

In a recent study group, 1006 patients received, over a 24 hour period, 12 Bufferin tablets (equivalent to 60 grains of aspirin). Although 72 had a history of being sensitive to aspirin, only 18 reported any gastric side-effect with Bufferin.[2]

1. Effect of Buffering Agents on Absorption of Acetylsalicylic Acid. J. Am. Pharm. Assoc., Sc. Ed. 39:21, Jan. 1950

2. Gastric Tolerance for Aspirin and Buffered Aspirin. Ind. Med. 20:480, Oct. 1951

AVAILABLE in vials of 12 and 36 tablets and in bottles of 100. Tablets scored for divided doses.

INDICATIONS: Simple headaches, neuralgias, dysmenorrhea, muscular aches and pains, discomfort of colds and minor injuries. Particularly useful when gastric hyperacidity is a complication. Useful for relieving pain in the treatment of arthritis.

EACH BUFFERIN TABLET contains 5 grains of acetylsalicylic acid, together with optimum amounts of the antacids aluminum glycinate and magnesium carbonate.

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New formula: Titanium Dioxide replaces Zinc Oxide; covers skin five times better, reflects sun's rays. Flesh-tone in color.

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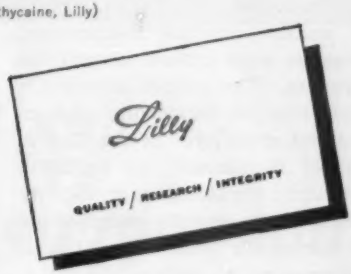
* Formerly 'Histadyl' (Thenylpyramine, Lilly) and 'Surfacaine' (Cyclomethycaine, Lilly)



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SHORT REPORTS FROM ABROAD

ITALY

Retroperitoneal Administration of Procaine. Blockade of sympathetic innervation of the lower extremities and pelvic organs can be easily achieved by precoccygeal infusion of procaine.

The needle is inserted anterior to the coccyx and a transfusion set is attached to the needle. The loose connective tissue of the retroperitoneum is nonresistant, even to large quantities of fluid.

Dr. Mario Selli of the University of Perugia has observed no discomfort to the patient from the procedure, which seems to have special value in producing relaxation of the ureters.

Atti Acc. med. Chir. Perugia 3:64-70, 1951-52.

SWITZERLAND

Radiogold for Ovarian Cancer. Intraperitoneal application of radioactive isotopes may afford protection against residual microscopic metastases after radical surgery for carcinoma. The colloid solution is absorbed in the lymphatics and accumulates selectively at the sites of probable metastases. In palliative procedures, the isotopes, applied intraperitoneally or intrapleurally, will slow metastatic growth and diminish formation of ascites.

In a survey of 69 cases of ovarian cancer treated with radiogold since 1945, Dr. J. H. Müller of the University of Zürich found that 22 of 25 patients with few or no local metastases were symptom free after periods up to thirty months postoperatively. Of 16 cases with extensive lymph node involvement, 7 are without symptoms up to four years after surgery. In the remaining 28 cases, the primary tumor proved to be inoperable. Of these patients, 65% survived surgery more than six months and 9 are still alive, an improvement over earlier results.

Schweiz. med. Wchnschr. 84:509-510, 1954.

SWITZERLAND

Tracheal Obstruction. Alterations in the membranous portion of the trachea may result in relaxation and distention of the mucosa. Invagination of the flapping mucosa during forced expiration causes an almost complete obstruction of the airway, according to Dr. H. Herzog of the University of Basel. The contact of the two opposing walls of the trachea may elicit paroxysmal coughing which further aggravates the condition.

Bulging and invagination of the tracheal mucosa have been ascertained by bronchoscopic and roentgenographic studies in 5 cases. An operation for elimination of the condition consists of splinting the

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conception control

membranous portion of the trachea externally and grafting a small bone to prevent bulging into the trachea. The operation stops attacks and increases exercise tolerance.

Schweiz. med. Wchnschr. 84:217-219, 1954.

SWITZERLAND

Fibrin Films for Corneal Defects. Closure of corneal ulcers with fibrin film is often possible in cases refractory to other methods of treatment. Pain is reduced and epithelial proliferation is encouraged. Drs. J. F. Cuendet and V. Michels of Lausanne used such therapy for 30 patients with corneal ulcers; the lesions healed completely in 15 patients and improved in 8.

Schweiz. med. Wchnschr. 84:399, 1954.

ARGENTINA

Cervical Block for Ozena. Rhinitis atrophica, a disorder of the vascularization in the nasal mucosa, may be relieved by cervical periarterial sympathectomy. However, Dr. Jorge Hipólito Chiodi of the Municipal Polyclinic, Lomas de Zamora, obtains comparable results with repeated bilateral novocain blocks of the superior cervical ganglion. The blood supply to the nasal mucosa is thus rapidly improved. Early cases may be healed by 4 blocks of each ganglion; in chronic cases remissions of several months may occur.

Prensa méd. argent. 41:662-665, 1954.

AUSTRIA

Ulcus Cruris. Disorders of the arterial circulation are often responsible for varicose veins and ulcus cruris, according to Dr. E. Vogler of Steiermark.

Arteriographic examinations revealed some abnormality of the arterial tree, sometimes extending as far as the iliac arteries, in all of 90 patients with indolent leg ulcers. Circulatory obstruction in the region of the ulcer causes opening of a large number of arteriovenous anastomoses which result in [1] deficient blood supply to the involved areas and [2] pressure transmission and subsequent distention of thin-walled veins.

In early cases, circulatory obstruction is mainly functional and is cleared by intraarterial administration of Hydergin or by blockade of the lumbar sympathetic nerves. Wien. med. Wchnschr. 104:311-312, 1954.

AUSTRIA

Circulation Time Determination. A simple method of measuring arm-to-arm circulation time is described by Dr. F. Brauner of the University of Vienna.

Sodium fluorescein is injected rapidly in the antecubital vein. Capillary blood samples are taken from the contralateral hand simultaneously by blotting up the blood from a puncture wound every three seconds on a strip of Whatman

Gratifying relief from pain, frequency or urgency

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filter paper. Examination of the paper strip under ultraviolet light gives the time that the fluorescein first appears.

Simultaneous samplings from 2 limbs can be used in the diagnosis of peripheral vascular disease; circulation time through the affected limb will be delayed.

Wien. med. Wchnschr. 104:97-98, 1954.

AUSTRIA

Ergot during Delivery. Intravenous administration of ergot as soon as the shoulders of the infant are delivered supplements the physiologic mechanisms for [1] extrusion of the placenta and [2] uterine hemostasis.

In a study of over 1,200 deliveries in which Methergine was employed, Drs. E. Leinzinger and H. Presinger of the University of Graz find that the duration of the third stage of labor was significantly reduced, as was total blood loss. In addition, hospital stay was shorter.

Schweiz. med. Wchnschr. 84:290-293, 1954.

FAR EAST

Wound Therapy. Placental tissue therapy hastens wound healing, improves regeneration, and allows filling of tissue defects.

Dr. C. Chippaux and associates of the French Medical Corps report 250 cases of war wounds treated with placental implants, grafts,

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TRULY THERAPEUTIC LIPOTROPIC DOSAGE

Choline chloride ..... 240 mg.
(equivalent to choline dihydrogen citrate 500 mg.)

Inositol ..... 200 mg.

To assure your patients more effective lipotropic therapy with much greater freedom from gastric disturbance, the Gericaps formula provides synergistic proportions of choline and inositol to afford lipotropic activity approximating *one gram* of choline dihydrogen citrate.

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Ascorbic acid ..... 12.5 mg.
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To compensate for shortages in fat-restricted diets.

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and dressings. Fresh placental tissue is obtained in the delivery room under strict asepsis from healthy parturients. The washed placenta is cut into small cubes and immersed in sterile saline containing penicillin and streptomycin. The container is closed hermetically and kept at a temperature of 4° C.

Best results were obtained by using placental tissue on wound dressings. Grafting to fill large tissue defects, particularly bone injuries, was also successful. However, implants into healthy tissue to stimulate healing in the adjacent wounds failed. Careful hemostasis is required, especially when soft tissue defects are filled.

J. du chir. 70:201-216, 1954.

FRANCE

Amphetamine and Uterine Bleeding. Use of amphetamine to control appetite may occasionally cause gynecomastia in men and metrorrhagia in women. Dr. J. Morali believes that the mechanism of this estrogenic effect may be direct or mediated through the pituitary.

Symptoms usually disappear a short time after the drug is withdrawn.

Bull. Féd. soc. gynéc. et obst. 5:165-166, 1953.

FRANCE

Pregnancy after Pulmonary Exeresis. Gestation may often be successfully brought to term in tuberculous patients after excision of pulmonary lesions.

Drs. M. Bérard, G. Maret, and E. C. Saubier of Lyon observed 18 pregnancies of 14 patients; 10 had had pneumonectomies, 3 lo-

For HARD, DRY STOOLS OF CONSTIPATED BABIES

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A gentle laxative modifier of milk. One or two tablespoonfuls in the day's formula—or in water for breast fed babies—produce a marked change in the stool.

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Fewer phone calls from anxious mothers. Malt Soup Extract is merely added to the formula. Prompt results. Easy for mother to prepare and administer. Does not upset the baby.

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A bowel content modifier that softens dry, hard stools by dietary means without side effects.[1] Acts by promoting an abundant fermentative bacteria in the colon, thus producing soft, easily evacuated stools. Retards growth of putrefactive organisms. By maintaining a favorable intestinal flora, Malt Soup Extract provides corrective therapy for the colon, too!

DOSE: 2 tablespoonfuls b.i.d. until stools are soft (may take several days), then 1 or 2 Tbs. at bedtime.

*Specially processed malt extract neutralized with potassium carbonate. In 8 oz. and 16 oz. bottles.

1. Cass, L. J. and Frederik, W. S.: Malt Soup Extract as a Bowel Content Modifier in Geriatric Constipation. Journal-Lancet, 73:414 (Oct.) 1953.

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bectomies, and 1 a segmental resection for pulmonary tuberculosis. In all patients, surgery was performed one to five years before pregnancy took place. Of the pregnancies, 15 terminated in deliveries of healthy infants and 2 ended in spontaneous miscarriages in the early part of gestation. Therapeutic abortion was done for 1 patient because of involvement of the contralateral lung.

Although some of the patients successfully delivered had dyspnea in the third trimester, no instances of serious respiratory deficiency or of circulatory failure occurred. In many cases bed rest was needed in the last two months of pregnancy.

Rev. tuberc., Paris 17:1098-1101, 1953.

FRANCE

Hypersomnia. Uncontrollable drowsiness may be an early sign of imminent mental disease, according to Drs. P. Sivadon and J. de Verbizier.

The beginning of neurosis or psychosis is often concealed by various defense reactions inherent in the psyche of the individual. The preliminary phase consists of irritability, headaches, and anxiety. A careful history frequently reveals that whenever difficult situations arise the patient becomes somnolent, sleeps a whole day, dozes off during work, or has a strong desire to sleep. Hypersomnia usually decreases when momentary difficulties disappear.

Hypersomnia may subside suddenly but is usually followed by the appearance of true psychosis. Proper treatment during the stage of hypersomnia may avert this progression.

Ann. méd.-psychol. 2:687-692, 1953.

from Medical Centers

★ UNIVERSITY OF ILLINOIS, Chicago—Cervical or uterine cancer may be detected by electric charges of exfoliated cells. The test is simple and can be done in fifteen minutes, report Drs. S. A. F. Lash and associates. Vaginal secretion is placed on a slide, and minute electrodes measure potential differences in electric charges between the inside and outside of 25 to 30 cells. If most readings are slightly positive, cancer usually exists.

★ UNIVERSITY OF WISCONSIN, Madison—Electric conductivity of enzyme chains is explained by Dr. Henry Mahler and associates. Atoms of heavy metals, notably iron, copper, and molybdenum, were detected in 6 enzymes, termed metalloflavoproteins. All members of the group behave like step-down transformers, and all end products are important in respiration. The protein components serve as insulation on the metallic conductors.

★ WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY, Shrewsbury, Mass.— Resumption of heart beat after one to ten days of freezing temperature was observed in 10-day-old rabbit embryos, reports Dr. M. C. Chang. Pulsations had ceased when embryos were stored in solution containing rabbit serum at 0 to 10° C. but returned after four to eight hours of culture in a Carrel flask at 39° C. During culture, no obvious growth occurred except of placental tissue.

★ UNIVERSITY OF CALIFORNIA, San Francisco—Codeine is converted into morphine in the human body. Shortly after 2 subjects were given radioactive doses, segments of codeine molecules were found in expired air, reports Dr. T. K. Adler. The exhaled fraction was apparently broken off by metabolic activity, leaving a morphine molecule in the body.

★ UNIVERSITY OF KANSAS, Kansas City—Acute toxoplasmosis may be eradicated and the carrier state prevented in mice by sulfonamides or, less frequently, by aureomycin. Depending on drugs, dosage, and virulence of organisms, mortality ranged from 8 to 100% and recovery rates from 0 to 75%, reports Dr. J. K. Frenkel. Antibody levels were higher with chronic infection; after cure, no antibodies or low levels were found.

★ VETERANS ADMINISTRATION HOSPITAL, Brooklyn, N.Y.—A plasma expander is 10 times more potent than serum albumin in attracting water into the blood stream. The substance was prepared from Bacillus subtilis, report Dr. Max Bovarnick and associates. A method of large-scale culture was devised by Drs. Curtis B. Thorne and Riley Housewright of the Army Chemical Corps Biology Laboratory, Camp Detrick, Md.

★ UNIVERSITY OF WISCONSIN, Madison—The sweet-pea factor causing lathyrism, or toxic osteomalacia, has been identified and reproduced. Human or animal disease is common in North Africa, Mediterranean regions, India, and lately in the Gulf states, where seeds are eaten, report Frank M. Strong and E. D. Schilling. An antidote is being sought that may serve for other disorders of bones, joints, and connective tissue.

short REPORTS

Surgery

Radioactivity and Wound Healing

Total body irradiation does not retard wound closure in mice. Moreover, healing is slightly accelerated in animals exposed to large doses. Mice subjected to doses of 150 or 450 r and wounded on the day of exposure or two, four, or eight weeks later had no significant differences in rate of wound closure from nonirradiated animals wounded at the same time, report Dr. Michael Radakovich and associates of the University of Rochester, N. Y. However, at the 650 r level of exposure, mice exhibited a slight increase in rate of wound healing and had radioactive illness within ten days after exposure. No correlation between nutritional state and rate of closure was observed.

Ann. Surg. 139:186-194, 1954.

Therapy

Diet for Sprue

A wheat-free diet may induce symptomatic, biochemical, and radiologic remissions in patients with sprue. In 1 case of sprue, the radiologic appearance of the small bowel changed from a pattern of abnormally thickened folds, fragmentation, segmentation, and flocculation to a completely normal pattern within three months after institution of the diet, report Dr. Julian M. Ruffin and associates of Duke University, Durham, N. C. Despite extensive therapy with folic acid and vitamin B_{12}, the patient was in severe relapse when the wheat-free diet was begun. Under the dietary regime, total protein, albumin-globulin ratio, and serum calcium became normal and vitamin A and glucose tolerance curves indicated enhanced absorption. Subjective well being, cessation of diarrhea, and rapid weight gain occurred. Improvement of sprue and celiac disease by other diets such as banana, vegetable-fruit, or starch-free diet may be due to elimination or curtailment of ingested wheat.

New England J. Med. 250:281-282, 1954.

Announcements

Pediatric Allergy Course

A postgraduate course in pediatric allergy under the direction of Dr. Bret Ratner will be held every Wednesday between November 3, 1954 and May 25, 1955 by the New York Medical College, New York City. Fee for the 30 sessions is $300. Applicants must be certified in pediatrics or be qualified for certification. Applications for enrollment should be sent to: Office of the Dean, New York Medical College, Fifth Avenue at 106th Street, New York City 29.

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Surgery

Lung Transplantation

Failure of homologous lung transplants to survive may be due to the implantation of foreign protein. Entire left lungs were grafted in 10 dogs, with the donor lung grafted to the recipient animal by anastomosing the left auricle, the left main pulmonary artery, and the main stem bronchus, report Drs. Creighton A. Hardin and C. Frederick Kittle of the University of Kansas, Kansas City. After anastomosis, the grafted lung expanded, blood circulated throughout the tissue, and the lung appeared normal by gross inspection. The animals survived one to twelve days, and microscopic examinations of the transplanted tissues post mortem showed changes due to tissue incompatibility. When donor and recipient animals were litter mates, the survival period was significantly longer and ranged from thirteen to thirty days. Splenectomy, total body irradiation, or administration of Benadryl did not affect survival time. However, administration of cortisone increased survival time to twelve to eighteen days. After transplantation of the entire left lung immediately followed by right pneumonectomy in 5 dogs, 2 survived for six and nine days, demonstrating the functional ability of the homologous lung graft.

Science 119:97-98, 1954.

Doctor to Doctor

Think of a gag that fits the illustration. For every issue a new gag is published and the author is sent $5. The Aug. 1 winner is

W. W. Woodhouse, M.D.
Pittsburgh

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"They're in tough financial straits. Her husband has lost his job and she's flat busted."

Cardiology

Q-T Anoxemia Index

Prolonged Q-T intervals are observed in electrocardiograms of patients with true angina pectoris during the anoxemia test and may be used as an additional aid in differential diagnosis. Of 67 patients considered to have angina of cardiac origin, 89.5% had positive Q-T anoxemia indexes. However, only 55.2% had positive tests by the Levy criteria, which is based on changes in the RS-T segment and T wave. The incidence of false-positive reactions was not significantly higher by the Q-T than by the Levy criteria, report Dr. Dan C. Roehm and associates of the Veterans Administration Hospital and Vanderbilt University, Nashville. Values of initial Q-T duration were higher before anoxemia in a group of 95 men with angina than in a group of 40 normal men. The largest increase in the initial Q-T interval for individual patients during the anoxemia test was greater in patients with true angina than in subjects with angina of noncardiac origin or in normal patients. The anoxemia index for males is computed by adding 2.6 times the greatest increase in Q-T during anoxia to the initial Q-T duration. The upper limit of normal for men is 0.48 seconds. The use of the test for women is precluded by the normally high initial Q-T intervals.

Am. Heart J. 47:204-217, 1954.

Endocrinology

Estrogen and Thyroid

Serum precipitable iodine (SPI), a reliable index of circulating thyroid hormone, increases in patients given daily doses of estrogen. The hormone was administered to 12 men and 7 women chronically ill with osteoporosis or carcinoma of the prostate or breast. All patients had linear increments in SPI levels during estrogen therapy, report Dr. William W. Engstrom and Blanch Markardt of Marquette University, Milwaukee. Daily doses were 75 to 100 mg. of diethylstilbestrol for the 12 men, 25 to 30 mg. of diethylstilbestrol for 5 of the women, and 5 mg. of Premarin for the other 2 women. A leveling-off in SPI increments was observed after three or four weeks of therapy. When estrogen was discontinued, SPI levels returned to normal. The induced increase in SPI does not appear to result from an altered rate of thyroid hormone disposal. Normal function of pituitary and thyroid appears necessary for induction of increased thyroid activity by estrogen. Large amounts of estrogen may produce tolerance to increased circulating thyroid hormone, since no symptoms indicative of hyperthyroidism were observed in the patients. Elevations in SPI levels observed during pregnancy may also be due to the increased elaborations of estrogen.

J. Clin. Endocrinol. 14:215-222, 1954.

Cardiology

Diagnosis of Stenosis

Proper selection of patients for cardiac surgery is facilitated by accurate recognition of the type and degree of valvular lesions. Cardiac catheterization of 17 patients and artificial perfusion of 3 hearts post mortem revealed some characteristics of aortic valvular stenosis described by Dr. Richard Gorlin of Harvard University, Boston, and associates. The physiologic criteria of tight aortic stenosis are a flat-stroke work-filling pressure curve after exercise, prolonged arterial systolic periods, and demonstration of a gradient between left ventricle and aorta of 75 mm. or more. The physical examination reveals breathlessness or syncope; signs of stenosis by auscultation, blood pressure, and carotid pulse; and electrocardiographic evidence of ventricular hypertrophy. Young individuals with tight aortic stenosis and little or no regurgitation are considered good surgical candidates. The diagnosis in aged patients may be confused by coronary artery disease and myocardial fibrosis. Mitral and aortic stenosis together produce a depression of blood flow that obscures the aortic lesion, and the left ventricular work load appears to be normal.

Bull. New England M. Center 16:13-23, 1954.

Books Received

MAN ABOVE HUMANITY by Walter Bromberg, 342 pp., ill. J. P. Lippincott Co., Philadelphia, 1954. $5.75

SOCIAL SCIENCE IN MEDICINE by Leo W. Simmons & Harold G. Wolff, 254 pp. Russell Sage Foundation, New York City, 1954. $3.50

THE SEX KNOWLEDGE INVENTORIES by Gelolo McHugh, Family Life Publication, Inc., Durham, N. C. Specimen sets, $2.75

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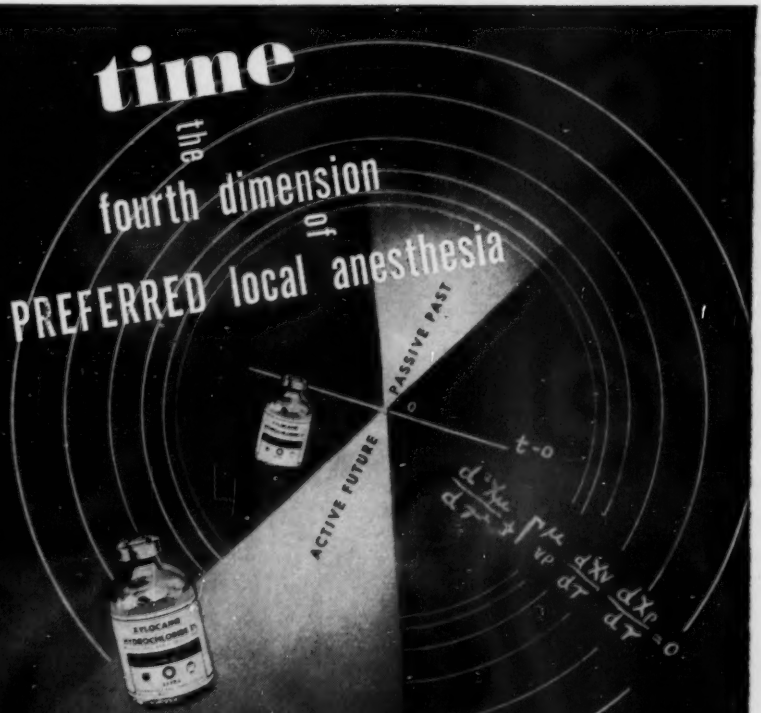
"She has no pep or energy, not pepper energy."

time
the fourth dimension of PREFERRED local anesthesia



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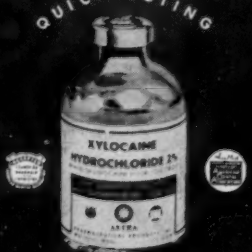

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Patients . . . I have met

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Bargain Day

"Did the doctor give you anything when you had your appendix out?" I asked the youngster.

"No," he replied, "it wasn't worth anything."—S.L.

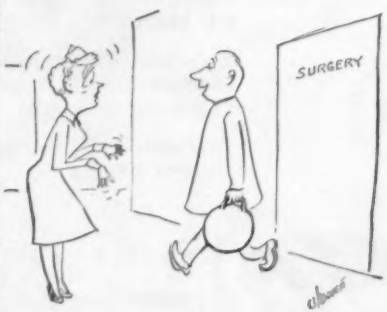
Rationalizer

"Don't hit your playmate with the shovel," I scolded my son. "You could injure him badly."

"He should go to a doctor anyway," replied the boy. "He's got a cold."—B.D.

Shades of Hades

When a patient coming out of anesthesia asked why all the blinds were pulled, I answered, "There's a fire across the street, and I didn't want you to think the operation was a failure."—L.L.



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"I will," answered the young wife. "I'm just waiting until he gets me down to 120 lb."—W.J.B.

Virtual Truth

"Doctor," asked the spinster, "do you think there is any virtue in wearing red flannel underwear?"

"Madam," I replied, "the only thing I can think of that would result from wearing red flannel underwear is virtue!"—E.K.

"Relax, loaf, go fishing . . ."

Inanity

An inquisitive old lady who was visiting the veterans hospital where I'm a nurse bent over the bed of a soldier whose head was swathed in bandages and said, "You poor boy! Were you shot in the head?"

"No," replied the young man, "I was wounded in the foot and the bandage has slipped up."—W.M.

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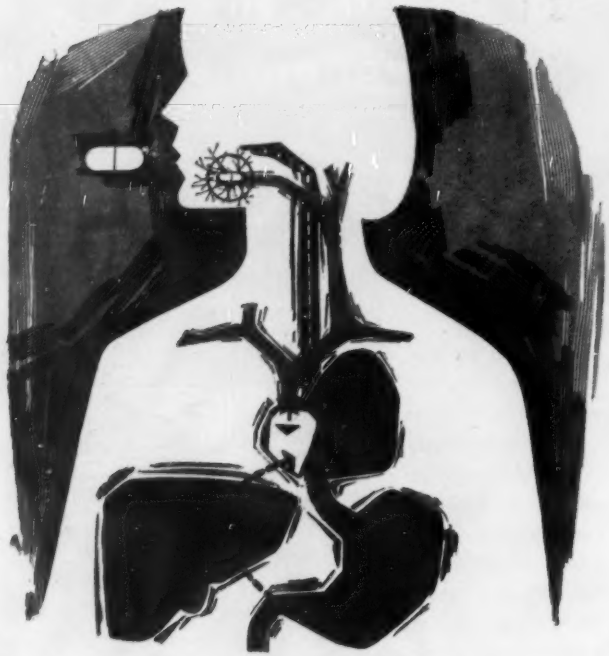

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